

TASMANIAN

Y E A R B O O K

1998



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Tasmanian Year Book 1998

Denis W. Rogers, Regional Director, Tasmania

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Cover design: Graphic Art Unit, Hydro-Electric Corporation, Hobart

Cover photo: Many colourful species of nudibranch live on coastal reefs off Tasmania and southern Australia. This mating pair, from the species *Tambja verconis*, were photographed off Rocky Cape in north-west Tasmania. (Graham Edgar, Zoology Department, University of Tasmania)

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Preface

The Tasmanian Year Book has been produced since 1967, annually until 1986, later becoming biennial. This is the twenty-sixth edition. Since its inception the Year Book has been an invaluable source of reference information about the State of Tasmania, providing a permanent record of the economic and social developments of the time. Subjects covered by the chapters of the Tasmanian Year Book include Tasmania's physical environment, its history and structure of government and details of the wide range of economic and social statistics collected by the Australian Bureau of Statistics.

ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is greatly appreciated. Particular thanks and appreciation are extended to those who have kindly supplied material for inclusion in this 1998 edition of the Tasmanian Year Book. I am also indebted to all those members of the ABS office in Tasmania who have contributed their skills and energy to making this publication possible.

The Tasmanian Year Book is designed to be readily understood by all who wish to acquire a broad knowledge of the State as well as those who have a practical use for the statistics. In order to assist this understanding, tables and text have been chosen to best illuminate the various topics covered. As far as possible, the latest available statistics and significant developments which occurred over the years 1996 and 1997 have been included in each chapter. More detailed, and in many cases more up-to-date, statistics of the various topics covered by this book may be obtained by reference to the related ABS publications listed at the end of each chapter. Copies of these publications are available for sale from the ABS office in Tasmania, which is located at 200 Collins St, Hobart, or may be obtained by writing to the Regional Director, GPO Box 66A, Hobart 7001.

Denis W. Rogers
Regional Director, Tasmania
Australian Bureau of Statistics
December 1997

General information

SYMBOLS

The following symbols, where used, mean:

n.a.	not available
n.e.c.	not elsewhere classified
n.e.i.	not elsewhere included
n.e.s.	not elsewhere specified
n.p.	not available for separate publication but included in totals where applicable
n.y.a.	not yet available
p	preliminary—figure or series subject to revision
r	figure or series revised since previous issue
..	not applicable
—	nil or rounded to zero

Where figures have been rounded, discrepancies may occur between sums of the component items and totals.

Where reference is made to Acts of the Commonwealth or State Parliaments, the year quoted refers to the year in which the principal Act was passed; all subsequent amendments are inferred.

LOCAL NAMES OF CERTAIN REGIONS

Tasmanians describe certain regions in a manner confusing to visitors; nevertheless this book employs local usage in most contexts. The chief peculiarities are:

The *north* coast from approximately Port Sorell, west to Cape Grim is called the *North-West Coast*.

The *north* coast from approximately Low Head, east to Cape Portland is called the *North-East Coast*.

The *West Coast* may refer to areas inland.

The *Midlands* refers to the rural area east of the Central Plateau, along the *Midland Highway*.

CHAPTER 1

History

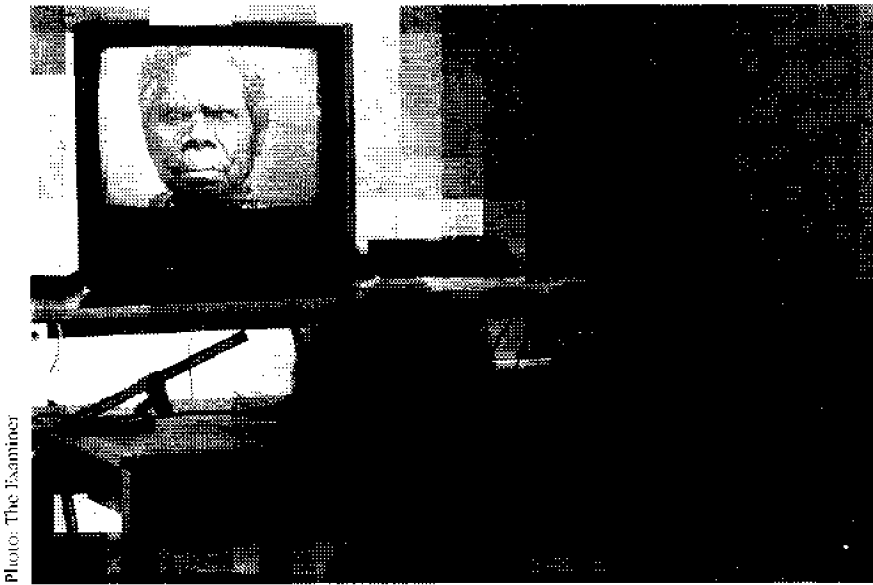


Photo: The Examiner

Flinders Island
Aborigines watch a
film called *Black
Men's Houses* in the
Wybalenna Chapel
during the national
Stolen Children
Inquiry.

Aboriginal people have been in Australia for at least 50,000 years. They probably came from Java and perhaps China, crossing the sea to the Australian continent on some kind of watercraft.

The precise date of the first human occupation of Tasmania is not known but Aboriginal people arrived more than 35,000 years ago. By 12,000 years ago, they had become isolated from the rest of Australia by the rising sea flooding the Bass Plain. The creation of Bass Strait brought about the cultural and physical isolation of the Tasmanian Aborigines. The size of the population when Europeans arrived in Tasmania is thought to have been between 5,000 and 10,000.

First references to Australia came from the Greeks, the Arabs, the Chinese, the Malays and Indians but are thought to have been largely a product of imagination. It was the Dutch, with their trading posts in Java, who were the first

Europeans to explore the coasts of both Australia and Tasmania in the early seventeenth century.

1606 Dutch Captain William Jansz crossed Torres Strait unawares while exploring the islands of New Guinea in the *Duyfken*, and coasted along the west of Cape York Peninsula.

1616 Dirk Hartog journeyed along the west coast of Australia after sailing too far east on the route from the Cape of Good Hope to Java.

1642 Abel Janszoon Tasman, commanding *Heemskirk* and *Zeehan*, sighted the west coast of Tasmania which he named Van Diemen's Land after the Governor of Batavia, who had funded the expedition. Landings were made on the Forester Peninsula and near Blackman Bay on the East Coast.

- 1772** The landing of a party from the expedition of Marion du Fresne at Marion Bay resulted in an affray with Aborigines.
- 1773** Tobias Furneaux, in the *Adventure*, became separated from James Cook in the *Resolution* and landed a party at Adventure Bay, Bruny Island.
- 1777** James Cook anchored the *Resolution* in Adventure Bay on his third southern expedition.
- 1788** The settlement at Port Jackson in New South Wales put Tasmania on a major sailing route, with the first fleet passing south of the island on its way. In the same year, William Bligh put into Adventure Bay with the *Bounty* on the way to Tahiti.
- 1789** John Henry Cox, on a sealing expedition from England, sailed the *Mercury* from Cox Bight to Maria Island.
- 1792** The next visitor was Admiral Bruny d'Entrecasteaux, commanding *Recherche* and *Esperance* and searching for La Perouse. He discovered the channel separating Bruny Island from the Tasmanian mainland, and was the first to sail up the Derwent River. William Bligh, on a second voyage to the Pacific to secure breadfruit, charted the south-east coast.
- 1793** D'Entrecasteaux returned for water to Adventure Bay. John Hayes, commanding the Duke of Clarence expedition, explored the Derwent River.
- 1798** Matthew Flinders and George Bass circumnavigated Tasmania. Now it was established that Tasmania was an island, authorities in London and Sydney felt that steps should be taken to block the French from making any claims to possession.
- 1802** Nicholas Baudin, commanding the *Geographe* and *Naturaliste*, explored the south-east coast. The expedition's navigator, Freycinet, charted Tasman and Forester peninsulas.
- 1803** Lieutenant John Bowen selected Risdon Cove as Tasmania's first settlement.
- 1804** Lieutenant-Governor Collins, unhappy with the Risdon site, moved the settlement to Sullivan's Cove. Lieutenant-Colonel William Paterson's settlement party landed at Port Dalrymple (Tamar Estuary).
- 1806** Tamar settlement was moved from York Town to the Launceston area.
- 1807** Thomas Laycock's party crossed the island overland from Port Dalrymple to Hobart. The first Norfolk Island settlers were shipped to Hobart in the *Lady Nelson*.
- 1810** Issue of the newspaper *Derwent Star*.
- 1812** Lieutenant-Governor Thomas Davey arrived. The northern settlements at Port Dalrymple were made subordinate to Hobart. The *Indefatigable* brought the first shipload of convicts direct from England.
- 1815** Hobart and Port Dalrymple were declared free ports for the importing of goods. Davey proclaimed martial law against bushrangers.
- 1816** *Hobart Town Gazette* was first issued.
- 1817** William Sorell assumed office as Lieutenant-Governor.
- 1820** John Thomas Bigge conducted an inquiry into colonial administration.
- 1822** A penal settlement was established at Macquarie Harbour.
- 1823** A British Act for the better administration of justice in NSW and Van Diemen's Land was passed.
- 1824** The Supreme Court was inaugurated. Lieutenant-Governor George Arthur arrived.
- 1825** The first Launceston newspaper, the *Tasmania and Port Dalrymple Advertiser*, was published. Tasmania was constituted a colony independent of NSW. With the island a separate colony, a Lieutenant-Governor, who was responsible to the Colonial Office in London, was appointed. Appointed Executive and Legislative councils were established.

- 1828** Martial law was proclaimed against Aborigines.
- 1829** A settlement was established at Emu Bay (Burnie).
- 1830** Beginning of the 'Black Line', the military campaign to round up Aborigines. George Augustus Robinson began his mission to conciliate the Aborigines. Juries were used for the first time in civil cases. Publication of *Quintus Servinton*, the first novel to be published in Australia. Port Arthur was established as a penal settlement.
- 1831** The British Government's new land regulations, discontinuing free grants of land and replacing them with land sales.
- 1832** The first shipment of Aborigines to Flinders Island occurred. A Caveat Board was established to settle land disputes and to confirm titles. Maria Island was closed as a penal settlement.
- 1833** Macquarie Harbour penal settlement was closed due to its inaccessibility and harsh natural environment. Convicts were transferred to Port Arthur.
- 1834** The Henty brothers from Launceston occupied land in the Portland Bay area, becoming the first Victorian white settlers.
- 1835** John Batman sailed from Launceston to Port Phillip as agent for the Port Phillip Association. Tasmania was divided into counties and parishes. Tasmania's population was estimated to be 40,283.
- 1837** Sir John Franklin assumed office as Lieutenant-Governor.
- 1838** Sessions of the Legislative Council were opened to the public.
- 1840** Convict transportation to NSW ceased; the numbers transported to Tasmania consequently increased. The population was estimated to be 45,999.
- 1841** A Probation System of convict discipline replaced the Assignment System. The Rossbank Observatory for magnetic and meteorological observations was established in Hobart.
- 1842** Tasmania was created a separate Anglican diocese. Hobart was made a city. Peak year for convict arrivals (5,329).
- 1843** Governor Sir John Franklin was recalled. He was succeeded by Sir John Eardley-Wilmot.
- 1844** Norfolk Island penal settlement was transferred from NSW to Tasmanian control.
- 1845** Six members of the Legislative Council (the 'Patriotic Six') resigned when the Governor used what they considered unconstitutional means to impose increased duties on various goods.
- 1846** Eardley-Wilmot was recalled. Launceston Church Grammar and Hutchins schools were founded.
- 1847** Sir William Denison, the new Lieutenant-Governor, re-appointed the 'Patriotic Six'.
- 1848** Tasmania became the only place of transportation in the British Empire.
- 1850** The Anti-Transportation League was established. Population, 68,870.
- 1851** The passage of the *Australian Constitution Act 1850* by the British Parliament was followed in 1851 by the establishment of a new Legislative Council in which 16 members were elected and 8 were nominated by the Lieutenant-Governor thus establishing limited representative government.
- 1852** Payable gold was first found near Fingal. Elections were held for the first municipal councils in Hobart and Launceston.
- 1853** The last convicts to be transported arrived. Van Diemen's Land's first postage stamp (Penny Blue) was issued and used until replaced by an Australian Commonwealth design in 1913.
- 1854** Bad floods disrupted the Colony. By the *Constitution Act 1854*, two Houses of Parliament (the House of Assembly and the Legislative Council) were established. Both Houses were to be elected.

- 1855** Sir Henry Fox Young succeeded Denison and was accorded the title of Governor. *The Constitution Act*, enabling responsible government, was passed.
- 1856** Van Diemen's Land was renamed Tasmania. The advent of responsible self-government was followed by the opening of a new bi-cameral Parliament with the first government in the House of Assembly led by W.T.N. Champ. The representative of the Crown now carried the title of Governor.
- 1858** A Council of Education was set up and the *Rural Municipalities Act* passed.
- 1859** Charles Gould was appointed to undertake a geological survey of western Tasmania. A telegraph link was established with Victoria.
- 1860** Population, 89,821.
- 1861** Colonel Thomas Gore Browne was appointed Governor.
- 1862** A scheme for a railway between Launceston and Deloraine was promoted.
- 1864** The first successfully transported salmon and trout ova were hatched.
- 1868** Primary education was made compulsory.
- 1869** Sir Richard Dry, the first Tasmanian-born Premier (1866-69), died. A new telegraph cable was laid to Victoria.
- 1870** The remaining Imperial troops were withdrawn. Population was 99,328.
- 1871** Tin was discovered at Mt Bischoff. The Launceston-Deloraine railway opened.
- 1872** A contract was let for building the Tasmanian Main Line Railway.
- 1873** The Tasmanian Main Line Railway Co. commenced construction, marking the start of an economic recovery.
- 1874** There were riots in Launceston in protest at rates levied for the Launceston-Deloraine railway.
- 1876** Race meetings commenced at Elwick. Truganini died. The Main Line Railway opened for traffic.
- 1877** Port Arthur was closed as a penal settlement.
- 1878** Mineral exploration of the West Coast was increased.
- 1879** A rich lode of tin was discovered at Mt Heemskirk.
- 1880** The first telephone was installed in Tasmania with a line from Hobart to the Mount Nelson Signal Station.
- 1881** Population, 115,705.
- 1883** The 'Iron Blow' at Mt Lyell was discovered.
- 1885** A Russian war scare was followed by activity in improvement of defences. The Mt Lyell Prospecting Association was formed.
- 1890** The University of Tasmania was established.
- 1891** The Van Diemen's Land Bank collapsed; a deep depression ensued.
- 1892** The Mt Lyell Mining Co. was established.
- 1896** Tattersalls Lottery was established by George Adams.
- 1897** Bushfires ravaged Tasmania, killing 6 people and hundreds of animals, and destroying an unrecorded number of houses.
- 1898** Tasmanians voted four to one in favour of Federation at a poll.
- 1899** The *Southern Cross* (Borchgrevinck) expedition departed Hobart for the Antarctic.
- 1900** The Tasmanian contingent to fight in the Boer War departed.
- 1901** The Commonwealth was proclaimed; polling was held for the first elections to the Federal Senate and House of Representatives. Population 172,475 (Census).

Census history in Tasmania

1804 to 1841

The earliest statistics of Van Diemen's Land were compiled in response to the immediate domestic concerns of the colony, such as the amount of food and the number of people to be fed. This information had to be kept under careful and continuous review.

In the early days of the colony (1804 until 1841), the information was obtained from musters.

There were two types of musters, both compulsory:

- Convict musters, which were held frequently, usually after Divine Service on Sunday, allowed for checking convicts' names off against a list, issuing provisions and making health checks.
- General musters, which were held less frequently, allowed for counts of the total population (convicts and free settlers), as well as recording information relating to agricultural activities. The musters were the forerunners of the current population census, which collects characteristics of population.

Civil condition (convict or free settler) and sex were generally the only characteristics of population with which the musters were concerned, whereas the census included name, age, sex, occupation, birth place, religion, conjugal condition and level of education. Dwelling information was also collected.

All persons were legally required to attend musters, whereas for population censuses appointed collectors visited each dwelling.

POPULATION OF VAN DIEMEN'S LAND (a)

	1824	1835
Free population	6 029	21 991
Convict population	5 938	16 968
Total	11 967	38 959

(a) There is some doubt about the accuracy of these early statistics, but, nevertheless they are immensely valuable as statistical records of the early days of Van Diemen's Land.

Source: *The Development of Official Statistics in Tasmania*

1842 to 1889

The first census of population in Tasmania was taken on 1 January 1842. The results, including a total population of 57,420, were published in a *Hobart Town Gazette* issued on 11 April 1843. This census was taken under the provision of an Act, (5 Vict. No. 7), which directed that an account of the population should be taken annually on 1 January.

Further censuses were held on 1 January 1843, 1 January 1848, 1 March 1851 and 31 March 1857. Several problems associated with these censuses were identified, including:

- limitation of information imposed by the design of the census form;
- omission of some households;
- high degree of illiteracy of the population;
- lack of suitable staff to act as collectors; and
- suspect tabulation of results.

By the 1861 census the forms had been redesigned and expanded and householders themselves were required to complete the forms delivered by the census collectors. The census day, 8 April, coincided with the taking of censuses in the United Kingdom and all other Australasian colonies. A census of schools was taken in conjunction with the population census of 1870.

The census of 1881 again coincided with the taking of censuses in the United Kingdom and all other Australasian colonies. This census marked a number of significant advances, such as:

- publication of census notices in newspapers;
- inclusion of details of land occupation;
- provision of maps to collectors; and
- more comprehensive analysis of results.

continued on next page

1890 to 1996

Following a Conference of Statisticians held in Hobart in 1890, the census of 1891 throughout the Australasian colonies used a schedule of core topics and applied a standard method of classification and tabulation of results.

The method of tabulation allowed preliminary results to be published within 3 weeks of census day.

Following another Conference of Australasian Statisticians, held in Sydney in early 1900, uniform principles for the collection and compilation of census data were applied for the 1901 census, which was taken simultaneously with the other Australian colonies.

After Federation, there was now a greater need for statistical uniformity to allow realistic comparisons between States and meaningful aggregates for Australia as a whole.

The Commonwealth Constitution provides for the Commonwealth to make laws with respect to census and statistics; accordingly the new Federal Parliament passed the *Census and Statistics Act in 1905*.

The first census under this Act was taken in 1911 and was followed by censuses in 1921, 1933, 1947, 1954 and 1961 and at 5-yearly intervals thereafter.

1903 Suffrage (voting rights) was extended to women.

1905 Experiments in wireless telegraphy between Tasmania and the mainland were undertaken.

1907 A new Public Library, which was built with a gift from Andrew Carnegie, opened in Hobart.

1909 Irish blight wiped out the State's potato crop. The State's first Labor Government, under John Earle, was elected.

1912 A fire at the North Lyell Mine, Queenstown, trapped miners underground, and 42 died.

1914 The first aeroplane flight in Tasmania occurred. Tasmania's first contingent to fight in the Great War departed. The Hydro-Electric Department was formed; the Government purchased a private hydro-electric power scheme and commenced a policy of encouraging high-energy-using companies to set up in Tasmania.

1915 Serious bushfires occurred.

1917 The electrolytic zinc works at Risdon and the Snug carbide works were established.

1918 The Great War ended.

1919 Frozen meat was first exported.

1920 Edward, Prince of Wales, visited. Cadbury's purchased a site at Claremont for a chocolate factory.

1921 Population 213,780 (Census).

1922 The Waddamana power station was completed. Women became eligible for election to Parliament on the same terms as men.

1924 Superphosphate was first manufactured in Tasmania by the Electrolytic Zinc Co. at Risdon.

1925 Osmiridium fields were discovered at Adamsfield.

1927 An inquiry was held into a proposed bridge over the Derwent at Hobart.

1929 Automatic telephone facilities were introduced to Hobart. There were serious floods and economic depression.

1930 Export prices fell to half the 1928 levels. The Australian pound was devalued so that £1 sterling equalled £1/5s.

1931 The Depression continued—the federal basic wage was cut by 10%. An austere Premier's Plan included a conversion loan to reduce the rate of interest on internal federal debt by 22.5%. Senior Ministers,

including J. A. Lyons from Tasmania, resigned from the Scullin Government. Following the carrying of a vote of no-confidence in the Government, elections were held at which the Scullin Labor Government was swept from office. Lyons led the opposition United Australia Party to victory.

- 1932** Joseph Lyons was sworn in as Prime Minister.
- 1933** A Commonwealth Grants Commission was appointed to inquire into the affairs of claimant States.
- 1934** Thirty-five years of continuous Labor Government in Tasmania began with the election of the A. G. Ogilvie Ministry. The second phase of hydro-electric development commenced at Tarraleah and Butlers Gorge.
- 1936** Tasmania was linked with Victoria by a new sub-marine telephone cable.
- 1937** A poliomyelitis epidemic occurred. Economic recovery resulted in five shillings 'prosperity loading' being added to the federal basic wage.
- 1938** A paper mill using native hardwoods was established at Burnie. The first turbines began operating at the Tarraleah power station.
- 1939** World War II began. Prime Minister Lyons died in office.
- 1940** Tasmanians sailed for the Middle East with the Australian 6th, 7th, and 9th Divisions.
- 1941** Newsprint production began at Boyer on the Derwent. Tasmanians sailed for Malaya with the Australian 8th Division.
- 1942** Uniform federal income tax commenced.
- 1943** The floating-arch Hobart Bridge opened for traffic.
- 1944** Pay-as-you-earn (PAYE) income taxation was introduced from 1 July.
- 1945** World War II ended.
- 1946** The Legislative Council rejected a bill

to grant Federal Government price control powers for three years. Crash of DC3 airliner at Seven Mile Beach with 25 deaths.

- 1947** 'Displaced persons' began arriving from Europe. Population 257,078.
- 1948** A forty-hour week was awarded to most workers from 1 January. The High Court rejected as unconstitutional the *Commonwealth Bank Nationalisation Act 1947*. Tasmanians voted 'No' almost two to one in a referendum denying Federal Government power over prices and rents. The Legislative Council's denial of Supply forced the dissolution of the House of Assembly; the Cosgrove Ministry was returned to power.
- 1949** Compulsory chest x-rays were introduced in the fight against tuberculosis.
- 1950** Federal petrol rationing ended. Dissolution of the House of Assembly was granted by the Governor and the Cosgrove Ministry was returned to power.
- 1951** In a referendum to give Federal Government powers in regard to communism, the 'No' vote prevailed, although Tasmanians expressed a slight 'Yes' preference.
- 1952** A single licensing authority was established for hotels, clubs etc. The State's free hospital scheme ceased on acceptance of a Commonwealth insurance scheme.
- 1953** The Arbitration Court abandoned the system of quarterly adjustment of the federal basic wage. State wages boards suspended quarterly basic wage adjustments.
- 1954** A bill was passed to resolve deadlocks in the House of Assembly. The Metropolitan Transport Trust was formed.
- 1955** The Bell Bay aluminium plant and the Trevallyn and Tungatinah power schemes were opened.
- 1956** The State Wages Board restored the 'cost-of-living' adjustments effective from 1 February but later suspended them. The EZ Company's sulphate of ammonia plant was opened.

1957 The Legislative Council rejected a bill giving aid to private schools.

1958 The Rivers and Water Supply Commission was established, and the Public Service Tribunal was established as an industrial authority. The army food science establishment commenced operations at Scottsdale.

1959 The first election to fill 35 seats in the enlarged House of Assembly resulted in Labor being re-elected. The *Princess of Tasmania* commenced a roll-on roll-off ferry service from Melbourne to Devonport.

1960 Liapootah power station was commissioned. The Zeehan–Strahan railway closed. The Inland Fisheries Commission was created. The first Tasmanian telecasts began.

1961 The *William Holyman*, a cargo container vessel, entered Bass Strait trade. The Legislative Council rejected equal pay legislation.

1962 The Catagunya power scheme turbines began producing electricity. State Wages Boards granted three-weeks annual leave. State subsidies were announced for municipal fluoridation schemes.

1963 The federal Court increased margins by 10% and granted three-weeks annual leave. The Universities Commission recommended a medical school for the Tasmanian University.

1964 The Tasman Bridge opened for traffic. Hobart's water supply was fluoridated. Glenorchy was raised to city status.

1965 Provisional driving licences were introduced. A dental nurse scheme for schools was implemented.

1966 Decimal currency was introduced on 14 February. The Burnie–Launceston coaxial cable was completed.

Equal pay for certain State Public Service females was granted. Breathalyser tests were approved for use by police. Subscriber-trunk-dialling (STD) was introduced. The Commonwealth Public Service removed marriage bar to female employment.

1967 The bushfire disaster of 7 February resulted in 62 deaths and over 1,000 houses were destroyed. The federal Arbitration Commission abolished the basic wage and substituted a total wage concept but the basic wage was retained in State awards. The Mt Cleveland tin mining town of Luina was completed. Daylight saving was introduced to conserve power.

1968 The Batman Bridge across the lower Tamar was opened. The Federal Government granted a subsidy for apples and pears exported to the UK and other countries. Full adult suffrage for Legislative Council elections from 1 July 1969 was introduced. Capital punishment was abolished. Savage River iron ore project was officially opened.

1969 A State election resulted in the election of 17 ALP, 17 Liberals and one Centre Party member (Mr Kevin Lyons). Mr Lyons combined with the Liberals to form a coalition government, ending a 35-year Labor rule in Tasmania. The Full Bench of the Federal Arbitration Commission granted equal pay to females performing equal work. The copper smelter at Mt Lyell was closed; concentrate was sent to Japan and Port Pirie (SA) for treatment.

1970 The first shipment of pyrites from Rosebery was railed to the Burnie sulphuric acid plant. The EZ Co. commenced a \$6.3 million residue treatment plant. Parliament introduced permanent daylight saving.

1971 APPM Ltd's Wesley Vale paper plant was opened. Population 390,413.

1972 Kevin Lyons resigned his cabinet portfolios and ended the Liberal–Centre Party Coalition. The ANL vessel *Princess of Tasmania* made her final trip to Tasmania. APPM Long Reach woodchip plant commenced production.

1973 The Bell Bay rail link; the first legal casino in Australia, Wrest Point; and the \$121 million Mersey–Forth IIEC scheme were officially opened. Storeys Creek tin mine closed down. The *Blythe Star* was lost at sea. Tasmania voted in line with other Australian States on prices and incomes referenda: 'No' to both.

1974 Workers under State Wages Boards' awards were granted 4 weeks annual leave; women under State Wages Boards' determinations were awarded equal pay. The Gordon Dam was completed. A no-fault third party insurance scheme was implemented.

1975 The bulk ore carrier *Lake Illawarra* rammed the Tasman Bridge resulting in a 128-metre gap and 12 deaths. Tasmanian suburban rail services ceased. The TAB began operating. Transmission of colour television programs commenced in Tasmania. Hotels were allowed to open for Sunday trading.

1976 Sea cargo to and from Tasmania was subsidised by a freight-equalisation scheme.

1977 The Federal Government confirmed Kingston as the site for Australia's new Antarctic Division Headquarters. The Tasman Bridge was re-opened.

1978 The Tasmanian railways came under full control of the Australian National Railways Commission. All regular passenger train services in Tasmania ceased.

1979 The State Government expanded the South-West Conservation area to more than 20% of the State's total area. The State's first Ombudsman was appointed. Tasmania's Parliamentary Hansard was introduced. A claim that a new Labor MHA in Franklin, Michael Aird, had breached the Electoral Act by spending more than the statutory limit of \$1,500 on his election expenses began the so-called 'Electoral' or 'Constitutional Crisis'. The HEC released a report which recommended a \$1.36 billion power development scheme involving the Lower Gordon, Franklin and King rivers.

1980 The Australian Heritage Commission included Tasmania on the Register of the National Estate setting strict guidelines for future development including the highly controversial Franklin and Lower Gordon rivers. Public pressure resulted in the State Government deciding to save the Franklin River. The Upper House Select Committee recommended the HEC's proposed Gordon-below-Franklin scheme and rejected the Government proposed Gordon-above-Olga scheme legislation.

The Australian Maritime College at Beauty Point was opened. Hobart was selected as the site for the permanent headquarters of the Commission for the Conservation of Antarctic Marine Living Resources.

1981 Bushfires at Zeehan destroyed 40 homes. The State Government placed a State-wide ban on Saturday afternoon trading by companies employing more than 100 people. A referendum concerning the State's next power development resulted in a large informal vote but most supported the Gordon-below-Franklin option.

1982 The Southwest National Park, the Franklin-Lower Gordon Wild Rivers National Park and the Cradle Mt-Lake St Clair National Park were nominated by the Federal Government for the World Heritage List; both proposed dam sites lay within the nominated area. The World Heritage Commission placed the areas on its list despite the opposition of the State Government. The Liberal Party formed a Government in its own right for the first time in Tasmania's history. Legislation for the \$453 million Gordon-below-Franklin power scheme passed through Parliament. The federal Labor Party announced a no-dams policy for a Federal Labor Government.

1983 The Labor Party led by Bob Hawke won the federal election. Regulations under section 69 of the *National Parks and Wildlife Act 1975*, gazetted by the Federal Government, made any further work on the Gordon-below-Franklin dam illegal. A Commonwealth writ, seeking an injunction to permanently stop work on the proposed Gordon-below-Franklin dam, and a Tasmanian writ seeking a declaration from the High Court that regulations under which the Commonwealth was acting were constitutionally invalid, were filed in the High Court. The High Court ruled that the Gordon-below-Franklin dam could not go ahead.

1984 The \$48.5 million Bowen Bridge, and the Wrest Point Convention Centre were opened. Fire caused approximately \$1 million damage to Hobart's historic Theatre Royal. Bob Hawke and Robin Gray signed an agreement for \$270 million compensation to Tasmania for the loss of the Gordon-below-Franklin power scheme.

Anglesea Barracks

Captain Karen Gower, Anglesea Barracks

Anglesea Barracks is the longest continuously occupied military barracks in Australia. Originally established in 1811 by Colonel Lachlan Macquarie, the Barracks was named for the Master General of Ordnance in England, the Marquis of Anglesey.

With a plentiful fresh water supply provided by a mountain spring, and a commanding view of the Derwent River, the Barracks was a vast improvement on the original wood and mud constructions housing the first soldiers garrisoned in the colony.

The first Barracks buildings were constructed in convict brick, later buildings in local sandstone and those built since the turn of the century in other materials.

In 1870, most of the Barracks passed out of military control except for the Drill Hall, which was retained for the Volunteer Forces, raised in the 1850s.

The remaining buildings were leased to numerous occupants, including a school, girls' reformatory and aged women's home.

In 1901, the Barracks was brought back into full military service, and remains so today. The Barracks is now also home to the Royal Australian Air Force and the Navy.

Guided tours of the Military Museum and Barracks are provided upon request.

1985 The municipalities of St Leonards and Lilydale amalgamated with the City of Launceston. The 10% Commonwealth air fare subsidy for travel between Tasmania and Melbourne was abolished. The Bass Strait ferry *Empress of Australia* was replaced by the *Abel Tasman*. The CSIRO Marine Laboratories opened in Hobart.

1986 Archaeologists discovered Tasmanian Aboriginal rock paintings in the Southwest, believed to be about 20,000 years old. The Liberal Government was re-elected with a majority of 3 seats; a record 15 MHAs lost their seats. The State Government abandoned its controversial fast-track development legislation which deprived Tasmanians of the right of appeal against major planning projects. The municipalities of Gormanston and Queenstown amalgamated to create the new municipality of Lyell. Population 436,353.

1987 A High Court decision banned logging in the Lemonhymc and Southern forests of Tasmania. Aboriginal hand stencils dating back to the last Ice Age were discovered in a cave in the Cracroft Valley in southern

Tasmania. The controversial Hobart Sheraton Hotel was officially opened. Tasmania's Bicentenary Tall Ship the *Lady Nelson* was launched. The Australian Conservation Foundation prepared to take the Federal Government's Helsham logging inquiry in Tasmania to court to overturn the decision by the Helsham Commission of Inquiry to free 4 forest areas in the Lemonhymc and Southern forests from High Court protection. Australia's Antarctic supply ship *Nella Dan* sank off Macquarie Island.

1988 The crews of approximately 200 sailing, cruise and naval ships from approximately 20 countries visited Hobart as part of the bicentennial celebrations. The State Government lost its High Court challenge to the validity of the Federal Government's legislation preventing logging in the Lemonhymc and Southern forests. The Tasmanian Sporting Hall of Fame was opened. The Helsham Inquiry found that 5 areas of the Lemonhymc and Southern forests qualified for World Heritage listing. Federal Cabinet announced that it would not insist on World Heritage listing if Tasmania agreed to protect 80% of the Helsham Inquiry

area, the Lemonthyme and Southern forests. A compensation payment of \$40 million was offered and the Tasmanian Government accepted the decision.

1989 An outbreak of legionnaire's disease in Burnie resulted in 3 deaths and 26 confirmed cases of the disease. A State election was held: the Liberal Party won 17 seats, Labor 13 and the Independents 5. After negotiations with the 2 major parties the Independents signed an accord with the Labor members to form government. Robin Gray formed a Liberal minority government.

A Melbourne man was charged with offering a \$110,000 bribe to newly elected Bass Labor MHA Mr Jim Cox to vote in support of the Gray Government when Parliament resumed on 28 June. Launceston businessman, Edmund Rouse, was also arrested. The Gray Liberal Government faced a vote of no-confidence by the Independent and Labor MHAs in Parliament. Debate on the motion resulted in Gray's government being defeated. Michael Field was sworn in as Tasmania's Premier after the resignation of Gray. Government House was opened to the public for the first time.

1990 Petrol station rostering ceased. Launceston businessman Edmund Rouse pleaded guilty to attempting to bribe Tasmanian Labor MHA Jim Cox and Anthony Aloj pleaded guilty to helping Edmund Rouse in the attempt. The Labor-Green Accord ended when the Government announced the adoption of the Forests and Forest Industry Strategy. The World Rowing Championships were held at Lake Barrington. Airline deregulation began. North Broken Hill-Peko's scheelite mine on King Island closed. A modified petrol rostering system began.

1991 Tasmania felt the effects of the recession as unemployment continued to climb above 11%. A number of big employers collapsed, including the Wander Ovaltine factory at Devonport, Pioneer's Electrona silicon smelter and Australian Paper Manufacturers' plant at Port Huon. Tristeel Engineering at Glenorchy was placed in receivership and the Renison tin mine on the West Coast closed, putting 350 miners out of work.

William Carter QC conducted a royal commission into the Rouse bribery attempt. His report found that Liberal leader Robin Gray had

been involved in the bribery attempt. Largely as a result of the commission findings and his party's slump in the opinion polls which followed, Gray was replaced as Liberal leader by Ray Groom.

A new 100 km/h maximum speed limit was introduced as part of a 10-point plan for uniform road laws throughout Australia. The petrol roster ended. The *SeaCat Tasmania* began on the Bass Strait service but was to be taken off during the winter off-peak season.

The combined SBT and Tasmania banks began trading as the Trust Bank. The Insurance Council of Australia said that domestic burglary claims in Tasmania had skyrocketed by more than 1,000 in 1990-91. Street gangs began to form in Hobart and there were more unprovoked and vicious muggings in Hobart streets. Legislation for fixed four-year terms for the House of Assembly and forest resource security passed State Parliament.

1992 The State election was held on 1 February and the Liberal Party won office: Liberals, 19 seats; Labor, 11 seats; and Green Independents, 5 seats. Unemployment reached 12.2% and there were ongoing budget cuts and a squeeze on public-sector pay rises. The Independent Commission to Review Tasmania's Public Sector Finance, headed by Charles Curran, recommended asset sales, the reintroduction of a redundancy program and a debt-reduction program. Industrial relations legislation gave workers the choice of either working under the existing award system or switching to enterprise agreements. The State axed 1,100 jobs. Angry workers forced the temporary closure of the House of Assembly during their anti-industrial relations legislation and job-cuts rallies. Those going on strike included 2,000 APPM mill workers at Burnie and 5,000 State school teachers.

The Government paid the bribery royal commission legal costs of 10 witnesses including Robin Gray, Edmund Rouse and David McQuestin. An Act was passed to allow mining and exploration in national parks declared since 1989. Tough anti-protest laws were introduced to control forest hostilities, a ban was placed on any new World Heritage Areas, it was made more difficult for national parks to be declared and the Wesley Vale pulp mill was put back on the agenda. Federal forest resource security legislation to complement State legislation was defeated.

Tasmania's Repatriation General Hospital was integrated into the public hospital system. The last group of Royal Hobart Hospital trained nurses graduated, ending a 116-year tradition of training in the RHH nursing school, and marking the end of hospital-based nursing training in the State.

The University of Tasmania was named as the National Centre for Aquaculture, to be established in Launceston. The inaugural Targa Tasmania car rally took place. The ordination of seven women as priests took place at Hobart's St David's Cathedral.

1993 Unemployment reached 13.4%, Pasminco-EZ shed 380 jobs, the Ovaltine and Sanitarium factories in Hobart announced that they were closing; there was job shedding at APPM; Blundstone announced that it was expanding, but in New Zealand; and Mount Lyell announced that it would close in December 1994. The \$53 million Henty gold mine was opened.

In the federal election held on 13 March, Labor won 4 of the 5 House of Representatives seats. Tasmanian Greens leader, Bob Brown, resigned from State Parliament to contest the federal election. He was replaced as leader by Lyons MHA Christine Milne. The number of Government departments was reduced from 17 to 12 by creating a few 'super' departments. The number of local government councils was reduced from 46 to 29.

Teachers received a pay rise to give them parity with other States. The Government had argued against parity with other States and used the teachers' pay issue to double the State tax on cigarettes and to increase abalone royalties.

The Government gave the mining industry the same resource security as previously given to forestry by introducing strategic zones legislation. The Federal Government closed Benders Quarry near Lune River, because of damage to caves.

The Government extended Federal Hotels' poker machine monopoly until 1 January 1997, after which machines were to be progressively introduced into hotels and clubs (but still owned by Federal). Tasmania's daylight saving period was permanently entrenched in legislation.

In response to continuing criticism and rising community concern about crime, a major

package of measures against crime and violence was introduced by the Government. The measures included proposals to fingerprint juveniles, a ban on drinking in public places, reduction in remission periods for convicted criminals, more police, and the introduction of a crime-stoppers program to increase security on commercial premises. The SeaCat service across Bass Strait was withdrawn altogether. The *Spirit of Tasmania* began the Melbourne-Devonport ferry run, with casino-style gambling allowed on board. Speed cameras were introduced on Tasmanian roads. Legislation was passed to allow stores to open one Saturday afternoon a month and to increase the size of stores that could trade at weekends.

Legislation was also passed to allow a cable car up Mt Wellington and a restaurant on the summit. The project ultimately died because there were no financiers.

The TGIO was sold to the Dutch-owned Fortis group. The Government announced a 40% pay rise for MPs and plans to cut the size of both houses of Parliament. MPs received their pay rise but rejected bills to cut their own numbers.

1994 Freedom-of-information legislation came into force. Local government elections involving 18 councils State-wide trialled postal ballot rather than the traditional booth method of voting. The Local Government Board was established under the *Local Government Act 1993*. The National Party re-formed its State branch at a conference in Launceston. The Extremely Greedy 40% Extra Party was formed to combat the MPs pay rise.

The State Government refused to reform Tasmania's Criminal Code provisions which make homosexual acts between consenting adults illegal. The State Government's stand on the gay issue led to Federal legislation to over-ride Tasmania's anti-gay laws. The Human Rights Committee of the United Nations upheld a complaint that Tasmania was breaching an international convention by having on its statute books a law making male homosexual sex a crime.

The report of a board of inquiry (chaired by The Hon. Trevor Morling, QC) into the size and constitution of State Parliament recommended no cut in the size of the House of Assembly, but that if there were to be a reduction then it would favour a unicameral Parliament. It also recommended that the Legislative Council be

elected by proportional representation, based on a single State-wide Hare-Clark electorate, and that its power to block budgets and legislation be reduced.

The big supermarkets, Purity and Roelf Vos, decided to defy Tasmania's shop trading laws. The breakthrough in shop trading came in November when a compromise package was designed in the Legislative Council: all-day Saturday shop trading from April 1995.

The State's latest and last power station, Tribute, which is part of the \$395 million Anthony power development, was opened near Tullah, an end to 80 years of dam building. The Federal Environment Minister ruled out intervention to stop the Heemskirk-to-Zeehan link road, which runs through the Arthur-Pieman protected area which the Greens call the Tarkine. The road became an issue again when the State Government revived the project in the Budget but was then forced to pass a regulation breaking its own planning laws to allow work to go ahead. The Wilderness Society launched its proposals for new World Heritage Area nominations—320,000 hectares bordering the existing WHA and the 350,000 hectare 'Tarkine' area.

The aluminium-hulled \$40 million catamaran ferry *Condor 11* grounded on Black Jack Rocks. It took 7 attempts over 7 weeks to get the catamaran off the rocks. HMAS Huon was decommissioned.

The Duathlon World Championships and the Australian Wooden Boat Festival were held in Hobart. Maxi ketch *Tasmania*, skippered by Robert Clifford, became the first Tasmanian boat to take line honours when it won the fiftieth anniversary Sydney-Hobart Yacht Race.

1995 In December 1994 the Federal Resources Minister renewed all existing woodchip licences and granted 2 new ones. In response, Tasmanian Senator John Devereux resigned from the Labor Party and a backbench revolt threatened. The Prime Minister intervened with a promise to control future licence decisions and phase out woodchip exports from native forests by 2000. Controversy continued and on 27 January the Prime Minister said that 507 forest coupes, 72 of which were in Tasmania, would be protected while studies of their conservation value went ahead. About 3,000 people marched in

Launceston to protest against woodchip export licence delays and forest industry interferences by conservationists. The Federal Resources Minister later announced that some Tasmanian coupes were to be released for logging.

European Carp discovered in lakes Crescent and Sorell posed a serious threat to Tasmania's trout fishery and lake ecosystems.

In April all-day Saturday shop trading commenced. Special drought assistance measures continued throughout the winter.

The Government introduced new worker's compensation legislation designed to save \$28 million a year while cutting the number of accidents at work. Workers would retain access to the common law while employers would face heavy fines if they failed to create safe work-places.

The Government decided to link the salaries of members of the Tasmanian Parliament to 88.9% of those of federal MPs. A House of Representatives committee found that no further studies should be undertaken into the draining of Lake Pedder.

A \$7 million aluminium and welding fabrication school was established to provide a stream of skilled employees for the manufacture of the aluminium-hulled high-speed catamarans.

The historic Aboriginal Land Act passed through Parliament, returning a number of significant cultural sites to Tasmanian Aboriginals.

The trend rate of unemployment fell from 11.1% in November 1994 to 9.6% in November 1995. The number of Tasmanians employed reached record levels in 1995, rising by 2.3% during the year.

Sue Napier led the way for women in conservative politics when she became the first State Liberal minister. Liberal veteran and former Premier Robin Gray retired from State Parliament.

A massive clean-up operation was launched following the grounding of the 37,500-tonne bulk ore-carrier, *Iron Baron*, on Hebe Reef, off the Tamar River. The vessel spilt 420 tonnes of oil which affected beaches and marine life.

1996 On Sunday 28 April 1996, 35 persons were killed and 21 persons were injured when a gunman fired at residents, visitors and staff in the Port Arthur area, on the Tasman Peninsula. The gunman pleaded guilty and was sentenced to life imprisonment on 22 November.

Following the events at Port Arthur, Commonwealth, State and Territory governments agreed to implement uniform gun laws which would ban automatic and semi-automatic weapons in an effort to make the country safer. The *Firearms Act 1996* provides for the possession, use, registration and licensing of firearms in Tasmania. The new law prohibits certain types of firearms and a buy-back scheme was implemented by the Government.

Former Federal Liberal minister, the Hon. Peter Nixon OA, headed a Commonwealth-State inquiry into Tasmania's economy and its prospects. The *Commonwealth State Inquiry into the Tasmanian Economy* would provide an update of the 1976 Callaghan enquiry. Economic growth was 1.5% compared with 4.1% nationally.

David Boon's 107-match, 12-year Australian Test career, in which he hit 7422 runs at an average of 43.66, ended at the Adelaide Oval on 29 January.

Tasmania's population from Census 1996 was 459,659, an increase of 1.5% from 1991.

Tioxide Australia Pty Ltd ceased operations at its Heybridge titanium dioxide pigment plant with a loss of 174 jobs. The plant, commissioned in 1948, was too old and too small to compete on the national market.

Records were set: the highest January rainfall on record; record cold winter temperatures; record Hydro consumption on July 9 of 1481 megawatts; snow in October.

Four Tasmanian frozen food firms and their managers were fined more than \$1.54 million for engaging in illegal price fixing. The penalties are believed to be the biggest in Tasmanian corporate history. The price fixing was centred around frozen potato chips and the pact had gone on for at least 5 years.

Tasmania had 2 elections within a week: the State election on 24 Feb and the Federal election on 2 March. The State election resulted in 16 Liberal seats, 14 Labour, 4 Greens and 1

Independent. Liberal governed with a minority government and Labour went into Opposition. On the Federal scene, Warwick Smith won back his Bass seat from Silvia Smith.

Legislative Council electoral boundary reform resulted in 19 more evenly sized electorates. The new division of Rumney was created in the south of the State while the former divisions of Russell (North-west) and Gordon (West) were combined to form Murchison. Due to differing retirement dates between the 2 members for Murchison, the seat of Rumney will remain vacant until 2000. At present Rumney is being represented by the members for Monmouth and Pembroke. Special transitional provisions have been put in place to cover the intervening period.

1997 January to June

The first recorded occurrence in Tasmania of rabbit calicivirus disease was confirmed in the Meander Valley in January. The origin of this outbreak was uncertain. In late April the Department of Primary Industry and Fisheries officially released the rabbit calicivirus at South Arm. In the intervening 4 months the virus had spread from Lorinna to Perth.

Amid predictions of social problems and unemployment, electronic gaming machines were introduced into hotels and clubs from 1 January with 55 establishments operating 800 machines. The venues which have obtained licences to operate machines have made substantial investments leading to a range of improved facilities and services in the hospitality industry. In June 1997, 62 hotels and 13 clubs operated approximately 1,000 machines.

In March 1997, the State Parliament repealed two century-old laws which together criminalised all male homosexual activity with a maximum penalty of 21 years gaol. The repeal followed a sometimes heated, decade-long community debate about homosexuality which saw the laws condemned by Amnesty International, the United Nations Human Rights Committee, the Federal Parliament and the High Court. Under Tasmania's criminal law all citizens are now treated equally regardless of their sexual orientation.

Two long serving politicians ended their careers in State politics: Labor leader, Michael Field retired and Jim Bacon became Leader of the Opposition; former Liberal minister Roger Groom retired. Recounts were held in the 2 electoral divisions affected.

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Acknowledgments

Captain Karen Gower, Anglesea Barracks

CHAPTER 2

Environmental issues



Photo: The Mercury

The clean up of waterways such as River Derwent has seen the return of vertebrates such as dolphins.

Air, water and land, and the flora and fauna found in them, combine to form the ecosystems that surround us. Healthy ecosystems maintain air and water quality, help regulate the climate, recycle nutrients, maintain soil fertility, and decompose wastes. Future generations of Tasmanians will rely on our sound management of the State to sustain its environmental capital.

The natural environment is not a static system; it changes constantly through the actions of natural forces, regardless of human activity. However, human activity introduces additional factors into the process of environmental change. The impact on the environment of activities such as agriculture, industry, urban development, mining and recreation is being increasingly examined as the community strives to integrate environmental issues into decision-making.

Environmental concerns

Gains in the protection of the environment are generally regarded to be a trade-off with economic growth and employment. This view is reinforced in the media and in politics. In 1996, Tasmania, along with Queensland, had the lowest percentage of residents who ranked environmental protection as more important than economic growth. However, in 1996, Tasmania had the highest percentage of residents who ranked environmental protection and economic growth of equal importance. Furthermore, for residents who believe environmental protection is at least as important as economic growth, the combined percentages ranked Tasmania third highest behind Western Australia and South Australia.

PERSONS RANKING OF ENVIRONMENTAL PROTECTION AND ECONOMIC GROWTH

	NSW %	Vic. %	Qld %	SA %	WA %	Tas. %	NT %	ACT %	AusL. %
1996									
Environmental protection is more important than economic growth	19.0	19.1	15.8	18.0	23.5	15.8	20.8	20.6	18.7
Environmental protection and economic growth are equally important	69.2	69.8	73.2	73.0	69.5	74.8	68.5	69.9	70.6
Environmental protection is less important than economic growth	8.2	8.4	8.9	5.9	5.5	7.6	8.3	9.2	7.9
Can't decide/don't know	3.7	2.7	2.1	3.1	1.5	1.9	2.5	0.2	2.8
1994									
Environmental protection is more important than economic growth	17.8	16.5	19.0	18.7	19.9	12.9	20.1	22.2	17.9
Environmental protection and economic growth are equally important	69.3	71.4	71.3	73.7	72.4	75.8	73.1	69.1	71.0
Environmental protection is less important than economic growth	7.8	7.6	6.5	5.4	4.5	7.7	5.5	6.8	7.0
Can't decide/don't know	5.1	4.5	3.2	2.2	3.2	3.6	1.3	1.9	4.1
1992									
Environmental protection is more important than economic growth	19.5	17.5	18.2	20.9	19.3	13.4	19.4	24.4	18.8
Environmental protection and economic growth are equally important	68.8	69.7	71.0	70.5	73.4	76.8	71.9	70.0	70.3
Environmental protection is less important than economic growth	6.7	7.6	6.8	4.6	4.9	6.5	5.9	3.6	6.6
Can't decide/don't know	5.0	5.2	3.9	4.0	2.4	3.2	2.8	2.0	4.4

Source: ABS catalogue no. 4602.0

PERSONS CONCERNED ABOUT ENVIRONMENTAL PROBLEMS

	NSW %	Vic. %	Qld %	SA %	WA %	Tas. %	NT %	ACT %	AusL. %
1996	66.5	70.5	66.8	72.6	70.8	58.1	66.1	75.1	68.4
1994	69.2	67.2	68.5	73.0	70.1	61.3	72.2	74.2	68.9
1992	73.6	75.2	74.0	77.0	76.0	70.7	79.6	83.5	74.8

Source: ABS catalogue no. 4602.0

ABS surveys in 1992, 1994, and 1996 reveal that, of the Australian States and Territories, Tasmania has consistently had the lowest proportion of people identifying one or more environmental concerns. The ACT has consistently had the highest proportion of residents nominating at least one environmental concern. Further, the gap between the Tasmanian and Australian proportions has been widening since 1992.

Flora and Fauna

People's views

Tree loss and the destruction of ecosystems was the number one environmental concern of Tasmanians in 1996, with 23.9% of Tasmanians expressing concern. Concern in 1996, had declined from the 35.9% of Tasmanians in 1992. The level of concern about loss of

wildlife/extinction of species is much lower at 5.8% of Tasmanians. This figure has decreased significantly over the three surveys. Both issues have experienced similar declines in the level of concern Australia-wide.

Biological resources are essential for our well-being, primarily because they provide clean air and water, fertile soils, and food. Consequently, issues relating to fauna and flora are linked to most aspects of the environment and its use by people for social and cultural activities as well as economic activities.

Tasmania, including all its islands, supports a wide variety of flora and fauna. Isolated from the Australian mainland for at least 10,000 years, it has both supported the continent's biodiversity by providing a refuge for species that have died out on the mainland, and it has been protected from many of the introduced species that have

PERSONS CONCERNED ABOUT DESTRUCTION OF TREES/ECOSYSTEMS/DEFORESTATION

	Tasmania %	Australia %
1996	23.9	23.6
1994	21.6	25.6
1992	35.9	32.8

Source: ABS catalogue no. 4602.0

PERSONS CONCERNED ABOUT DESTRUCTION OF ANIMALS/WILDLIFE/EXTINCTION OF SPECIES

	Tasmania %	Australia %
1996	5.8	9.1
1994	9.9	13.3
1992	20.0	19.3

Source: ABS catalogue no. 4602.0

SPECIES, TASMANIA

Phylum	Common name (example)	Estimated number of described species no.	Possible total number of species no.
Animalia			
Annelida	earthworms, leeches	90	150
Chelicerata	spiders, scorpions, ticks, mites	298	2 000
Chordata			
Amphibia	frogs	11	11
Aves	birds	331	331
Mammalia	mammals	86	86
Pisces	fish	600	700
Reptilia	lizards, snakes	27	27
Cnidaria	jellyfish, anemones, hydra	96	150
Crustacea	crabs, shrimps, amphipods	484	550
Echinodermata	starfish, sea urchins	125	150
Entognathous Hexapoda	small insect-like animals	92	400
Mollusca	shellfish, snails, squid	1 400	1 500
Myriapoda	centipedes, millipedes	46	170
Nematoda	roundworms	120	12 000
Nematomorpha	hair worms	2	2
Onychophora	velvet worms	9	15
Platyhelminthes	flatworms	81	14 000
Porifera	sponges	440	1 000
Rotifera	rotifers (freshwater microfauna)	133	1 000
Uniramia	insects	7 641	14 500
Plantae			
Angiospermophyta			
Dicotyledonae	broadleaved plants	1 445	1 500
Monocotyledonae	grasses, sedges, lillies	756	800
Bryophyta	mosses, liverworts	648	1 000
Chlorophyta (macro)	green macroalgae	100	130
Chromophycophyta	diatoms, dinoflagellates	128	2 000
Coniferophyta	conifers	12	12
Filicinophyta	ferns	104	120
Lycopodophyta	lycopods (club mosses)	11	20
Phaeophyta (macro)	brown macroalgae	150	200
Rhodophyta (macro)	red macroalgae	500	750
Fungi			
Lichenised fungi	lichens	633	1 000

Source: *State of the Environment Tasmania, Volume 1, 1996*

so affected the flora and fauna of mainland Australia. The dingo is absent; the fox has never become established; and feral dogs and pigs, so

damaging elsewhere in the country, have restricted Tasmanian distributions.

THREATENED AND RARE TAXA (a), TASMANIA

Group	Extinct (b) no.	Endangered (c) no.	Vulnerable (d) no.	Rare (e) no.	Total no.
Amphibians	0	0	1	0	1
Birds	4	5	11	5	25
Broadleaved plants	22	29	47	186	284
Conifers	0	0	1	1	2
Ferns	1	1	6	11	19
Freshwater fish	0	3	2	1	6
Grasses, sedges, lillies	6	5	5	114	160
Invertebrates	7	7	18	78	110
Mammals	1	3	1	2	7
Reptiles	0	1	4	0	5
Total	41	54	96	428	619

(a) Some groups (e.g. lower plants) have yet to be studied comprehensively. (b) Extinct: species that have not been seen for at least 50 years. (c) Endangered: species in danger of becoming extinct in the future. (d) Vulnerable: species likely to become endangered in the near future. (e) Rare: either naturally uncommon species or species that have had their range substantially reduced.

Source: *State of the Environment Tasmania, Volume 1, 1996*

Flora

Flora and Reservation

Reservation has been used to protect significant species, communities and habitats from degradation.

Many threatened species are now found in secure reserves (such as national parks, forest reserves, nature reserves). For example, 15 of 35 endangered plants and 33 of 60 vulnerable plants are found in secure reserves (Flora Advisory Committee 1994). Of the botanical communities, 98% of alpine communities are well reserved, while only 28% of grassland communities are well reserved and 16% are completely unreserved (Kirkpatrick et al. 1995). However, reservation does not automatically ensure the protection of a species. Heath habitats for example are being severely degraded both inside and outside reserves by the root rot fungus, *Phytophthora*.

Threats to flora

Threats to plant species are greatest in the settled agricultural districts, especially in the Midlands and eastern Tasmania, where clearing has already diminished available habitat for many species. The spread of *Phytophthora* root rot fungus, and competition and habitat degradation by weeds such as gorse and willow are major threats to localised rare plants. Many endangered species now persist on remnant areas along roadsides, railway easements, or on rocky outcrops too difficult to clear or cultivate. Inappropriate burning, grazing and clearing have caused native grasslands and grassy woodlands to become Tasmania's most severely threatened ecosystems (Bryant & Harris 1994).

In addition to forming important refugia for floral communities, areas of urban bushland are also important for their intrinsic and aesthetic values, recreational and tourism values, their

WEED SPECIES IN SELECTED REMNANT BUSHLAND AREAS

Study area	Local native species no.	Exotic species no.	Exotics % of all species
Waverley Flora Park	(a) 300	(a) 100	25
Natone Hill	(a) 140	(a) 50	26
Bellerive-Howrah Beaches	113	43	27
Kelcey Tier	184	43	19
Queens Domain	138	128	48
Wellington Range	(b) 500	(b) 130	20
Boronia Hill	250	70	22
Cataract Gorge	320	109	25

(a) Approximate value. (b) Likely to be greater than figure stated.

Source: *State of the Environment Tasmania, Volume 1, 1996*

Kings Lomatia

Jayne Balmer, Botanist, Tasmanian Parks and Wildlife Service.

Kings Lomatia (*Lomatia tasmanica*), formerly called Kings Holly, is an unusual shrub that grows along creek banks in the cool, dense, rainforest of Tasmania's remote Wilderness World Heritage Area. It is one of many Tasmanian endemic plants that helped to have the area listed as World Heritage.

Kings Lomatia was discovered by the miner and naturalist Denny King. Described and named in the 1960s, it is a member of the Proteaceae family. A spindly, straggling plant growing up to five metres tall, Kings Lomatia has attractive leaves forming whorls at the branch ends. Typical of other Proteaceae, it has clusters of rusty red flowers which resemble those of its relative, the grevillea. The plant does not appear to be able to produce seed, and is only able to regenerate itself by vegetative means, sending out long root stems from which new trunks arise.

Extensive searches have revealed that Kings Lomatia is naturally restricted to one small water catchment. There are only about 500 individuals and the area they inhabit is at risk from disease and fire, making the species vulnerable to extinction. The rarity of this plant has perplexed scientists.

The Parks and Wildlife Service has been co-ordinating research on the plant to assist with its long term conservation management within the World Heritage Area. Funds from the Australian Flora Foundation assisted with propagation research at the University of Tasmania. The Royal Tasmanian Botanical Gardens now have a propagation program, with the aim of making the plant commercially available to the public.

Genetic work undertaken at the University of Tasmania showed that there was absolutely no genetic variation within the population. Even plants separated by more than a kilometre were identical. The entire population is composed of a single plant clone. A study of the plant's chromosomes revealed that Kings Lomatia is triploid, that is, it has three sets of chromosomes instead of two. Because of this it is unable to sexually reproduce. The plant is a rare freak of nature whose origins and age are as yet unknown.

It is now believed that this plant clone is the oldest known clone in the world. Radiocarbon dating of a charcoal sample found in the same sedimentary layer as a fossilized leaf of Kings Lomatia suggests that it has been around for at least 43,600 years. Whilst no genetic tests were done on the fossil leaf—which would prove that the two plants are indeed clones—the fossil and modern leaves have the same shape and epidermal cell structure. If the ancient plant were not a triploid these would look different. In comparison, a sterile, vegetatively reproducing, triploid cannot undergo any genetic variation.

This discovery is fascinating because it shows that even without the flexibility of genetic variation some plants are able to tolerate change. Kings Lomatia has lived through the major climatic change at the end of the last glacial, and survived the arrival of people in Tasmania.

contribution to the community's sense of place, and act to maintain the environmental quality of urban areas. For example, the Queens Domain in Hobart is both a recreational area, and the location for five vascular plant species which are not found in State reserves; another which is endemic to the Domain; and a dozen species which are endangered, vulnerable or rare (Kirkpatrick 1995).

Unfortunately, recreational use of both urban and country areas often accelerates rates of erosion and weed invasion. These pressures on flora are compounded by activities such as firewood collection, rubbish dumping, and incremental small-scale development.

As with many areas of Australia, Tasmania's environment has been moulded by thousands of years of 'firestick farming'. The exclusion of fire can change the ecology of fire-dependent plant communities, and of wildlife dependent on the habitat. Conversely, regions not adapted to fire, such as alpine and rainforest areas, have experienced significant damage from fires.

Fauna

The vertebrate animals of Tasmania (mammals, birds, reptiles, frogs and fish), are of great national and international interest and an important component of Australia's natural heritage. They include the Tasmanian Devil, the world's largest extant marsupial carnivore, and species whose survival is currently threatened, such as the Orange-bellied Parrot and Pedder Galaxias. In addition to species that have evolved on the island, like the Green Rosella, snow skinks and Tasmanian Tree Frog, Tasmania serves as a refuge for many species which, especially over the past 200 years, have become increasingly rare or extinct across the rest of the continent. Some, such as the Bettong, Eastern Quoll and Pademelon are now restricted to Tasmania after disappearing relatively recently from south-eastern Australia. Others, for example the Eastern Barred Bandicoot, Spotted-tailed Quoll and Ground Parrot, are under threat on the mainland but are relatively secure in Tasmania.

As well as being of scientific significance, Tasmanian vertebrates have intrinsic, social and economic values. They are an important part of the environment shared by all Tasmanians, and increasingly enjoyed by tourists. World-famous species, such as the Tasmanian Devil, are significant drawcards for tourism. Others, for example wallabies, possums, muttonbirds and

ducks, are subject to controlled recreational and commercial hunting. All Tasmanian vertebrates, whether common or infrequently seen are integral parts of Tasmania's natural heritage and their conservation is of great importance.

Threats to fauna

Since European settlement began in 1803, many changes to the Tasmanian landscape have occurred. Although these changes have benefited some species, many are now threatened with extinction. An important part of the prevention of species extinction is the identification of the threatening process involved.

Land clearing and soil degradation have been relatively less in Tasmania than on mainland Australia. Nevertheless, the habitats of much of Tasmania have been altered on a large scale by activities such as agriculture and forestry. Whilst extensive areas of forest and buttongrass moorland in western Tasmania remain undisturbed, dry eucalypt forest and native grasslands in the midlands, north and east of the State have been subjected to extensive clearing and revegetation with introduced species, such as *Pinus radiata* and *Eucalyptus nitens* in plantations.

Subdivision of land into small to medium-sized blocks for residential development poses a threat to conservation of native fauna in many municipalities. Large areas of native habitat are being divided, and reduced to isolated fragments, too small to sustain viable populations of native animals. Sensitive and careful land planning is needed to ensure adequate buffer zones and corridors of undisturbed vegetation, and sufficiently large undisturbed areas to ensure that the needs of native wildlife are met.

The devastation by foxes has not been experienced in Tasmania and impacts of many vertebrates (such as dingoes, feral pigs and feral dogs) are either absent or limited. Nevertheless, feral animals do pose threats to native fauna. Arguably the most destructive of feral pests in Tasmania is the cat. Feral cats are established in the wild in most parts of the State and prey on a wide range of native vertebrates, including frogs, lizards, birds and small mammals. Management programs are being undertaken to control cat populations on islands such as Macquarie and Great Dog islands, and research is being conducted into ways of controlling them on the Tasmanian mainland.

Rabbit calicivirus in Tasmania

The European rabbit is one of Australia's worst vertebrate pests. Previous attempts at biological control of this species—using the myxoma virus—have been only temporarily successful. In 1980 the rabbit calicivirus—another rabbit-specific pathogen—was brought to Australia for evaluation as a control method. In October 1995, during field testing, the virus escaped from the quarantine station on Wardang Island to mainland South Australia.

After spreading rapidly, the presence of calicivirus in Tasmania was confirmed in early January 1997. It is thought that infected insects introduced the virus to the State at some time in either late winter or spring 1996. First detected at Meander in the central north, the disease spread during the summer and autumn east to Perth and west to Lorinna at an average rate of about 3 km per week. North-south spread was limited, probably reflecting the prevailing wind patterns. In much of the infected area, rabbit numbers plummeted and were still very low in August 1997, although there was some reinvasion around the edges from uninfected rabbits.

Two other small outbreaks were also detected later, one near Rocky Cape and the other east of the Tamar River. These may have spread either from the first outbreak or have been separate introductions from the mainland.

Approval to actively spread calicivirus was given by the Minister for Primary Industry and Fisheries on April 23rd 1997. The first release was made one week later at a site on South Arm peninsula where rabbit numbers had been monitored for several months. With its dry climate and sandy soils, this area supports the densest rabbit populations in Tasmania. Due to low winter-time insect population, the virus spread slowly from the infection site covering a radius of approximately 1 km within 2 months. Within 3 months 75% of the rabbits near the release site had died. The virus was released at a number of other sites in southern and north-western Tasmania during winter 1997.

These winter releases were made partly to study the survival of calicivirus in Tasmania's winter conditions and partly to try to ensure a supply of virus in the environment to allow rapid spread when conditions become favourable in spring.

The impacts of rabbits and goats have been less severe than elsewhere in Australia. However, the arrival of the calicivirus has prompted a fresh campaign against the rabbit, and feral goats have recently been subject to an extensive control program to reduce their effects on the environment.

Raptors, such as the Wedge-tailed Eagle and Grey Goshawk, roam far and wide in search of prey and encounter many threats, including shooting and other forms of persecution by vandals and some landowners. Their nest sites, often in large eucalypt trees, have also been disturbed by various activities including forest clearance.

Hydro-electric development has resulted in large areas being flooded, river flows being altered

and distributions of native fish being changed. Introduction of exotic trout species, such as Brown Trout and Rainbow Trout, sometimes in association with dam construction, has also had significant effects on aquatic ecosystems and in some cases threatened the existence of native fish species, such as Pedder Galaxias and Swan Galaxias.

Pollution of waterways from industrial and domestic sources poses a threat to many vertebrates. Organic pollution from abattoirs and domestic wastes can result in eutrophication and oxygen depletion in waterways, whilst heavy metal pollution can result from various activities including mining. It is suspected that heavy metal pollution may be linked with unusual ulceration of Platypus in some Tasmanian rivers.

Pollution is not confined to freshwater environments. Scraps of synthetic material discarded from fishing boats pose a serious threat to many marine birds, seals, turtles and fish. Seals and birds have been found around the Tasmanian coast entangled with a wide variety of discarded materials including bait straps and filament netting.

Through research into the conservation needs of Tasmania's vertebrates, and recognition of the processes that threaten them, efforts are being made to ensure that future Tasmanians will be able to appreciate and enjoy the remarkable wildlife and natural heritage of the State. Greatest success has been achieved through joint cooperative action involving the whole community.

Reserved areas and conservation

Tasmania, including its offshore islands, has a total land area of approximately 6.8 million hectares, of which 4.1 million hectares, or 61%, is publicly owned. This land is managed by a number of agencies including Forestry

Tasmania, the Department of Environment and Land Management, and the Hydro-Electric Corporation.

Public benefit and protection for natural and cultural values is maximised by providing a variety of reserves for different types of use. The competing demands of development, recreation, and conservation are inextricably linked, with competing demands addressed in management plans, legislation and regulations.

Conservation in areas not reserved (especially on private lands) has been addressed with several initiatives. Programs such as Landcare and Land for Wildlife, along with the *Threatened Species Protection Act 1995* (Tas.), are providing mechanisms for off-reserve conservation. Based around cooperative arrangements with landowners, there is also an ability under the Act to enforce the protection of threatened species in extreme situations.

National parks

Legislation is important in ensuring the preservation of natural habitats, flora and fauna. The *Tasmanian National Parks and Wildlife Act 1970* (Tas.) repealed the *Scenery Preservation Act 1915* (Tas.) and the *Animals and Birds Protection Act 1928* (Tas.). The Act made new provisions for the establishment and management of national parks and other reserves and the conservation of flora and fauna. These provisions included the development of land for conservation purposes, managing reserved land, preparing management plans, carrying out research and other activities relating to the conservation of flora and fauna, providing education facilities, and enforcing regulations under the Act.

There are fifteen national parks in Tasmania, with the Mole Creek Karst National Park being the most recently declared.

Other reserves

In addition to National Parks, Tasmania has over a dozen other types of reserves. To varying degrees, these balance conservation with recreational, traditional, and commercial uses.

These areas can assist the survival of wildlife by providing for the conservation of habitats that can be utilized for feeding, breeding, or during migration. Some of the areas protected include the breeding grounds of Cape Barren Geese, penguins, pelicans, other waterfowl, and seals. Other reserves have also been set aside to

LAND TENURE, TASMANIA (a)

Land tenure	Area ha
Public land	
Aboriginal Site	662
Coastal Reserve	12 585
Commonwealth Land	30 743
Crown Reserve	366
Forest Reserve	83 979
Game Reserve	5 858
Historic Site	8 916
Hydro-Electric Commission Land	121 623
Lakeside Reserve	1 189
Municipal Reserve	2 212
National Park	1 348 842
Nature Reserve	39 537
Non-allocated Crown Land	714 953
Other Crown Reserve	30 942
Protected Archaeological Sites	712
Protected Area	190 817
River Reserve	4 971
State Forest	1 494 916
State Forest (Hydro)	19 594
State Recreation Area	5 888
State Reserve	21 944
Total	4 141 249
Private land	2 668 041
Total	6 809 290

(a) Includes all offshore islands including King, Flinders, and Macquarie Islands. Excludes marine estuaries.

Source: Forestry Tasmania GIS 1:25,000 scale as at 13.10.97

NATIONAL PARKS, TASMANIA

Name	Area ha	Year gazetted	Location	Description
Asbestos Range	4 349	1976	North coast	Coastal heathland
Ben Lomond	16 527	1947	North-east	Alpine, skifields
Cradle Mountain-Lake St Clair (a)	160 883	1922	West central	Mountains, lakes
Douglas Apsley	16 080	1989	East coast	Dry sclerophyll forest
Franklin-Gordon Wild Rivers (a)	440 809	1939	South-west	Wilderness, rivers
Freycinet	11 930	1916	East coast	Coastal, granite
Hartz Mountains (a)	7 140	1939	South	Mountains, forest
Maria Island	11 550	1972	East coast	Wildlife, historic
Mole Creek Karst	1 345	1996	Central North	Caves, karst landscape
Mount Field	16 265	1916	South central	Alpine skifields
Mount William	13 899	1973	North-east	Coastal, wildlife
Rocky Cape	3 064	1967	North-west	Coastal heath
Southwest (a)	608 298	1951	South-west	Rugged wilderness
Strzelecki	4 215	1967	Flinders Island	Mountains, coastal
Walls of Jerusalem (a)	51 800	1981	West central	Alpine plateau

(a) Constitute the Tasmanian Wilderness World Heritage Area, together with Devils Gullet, Liffey Falls (part) State Reserve, Mole Creek Karst National Park (part), Macquarie Harbour Historic Site, Farm Cove Game Reserve, Adamsfield, Central Plateau and Marble Hill Conservation Areas, Maxwell River and Wargata Mina Protected Archaeological Sites, three Forest Reserves on the Great Western Tiers and small areas of HEC and private land (totalling 1,383,640 ha) as of May 1992.

Source: Parks and Wildlife Service of the Department of Environment and Land Management

CHANGES TO RESERVE STOCK, TASMANIA 1995-96

Name of reserve	Area ha	Purpose
Eaglehawk Neck Historic Site	8	New reserve
Marakoopa Cave State Reserve extension	1,148	New reserve
Cape Deslacs Nature Reserve	83	New reserve
Dennes Hill Nature Reserve	92	New reserve
Hawley Nature Reserve	49.66	New reserve
Pitt Water Nature Reserve	776	New reserve
St Clair Lagoon Conservation Area	254	New reserve
Oyster Cove Historic Site	30.3	Transfer to Aboriginal land
Mt Cameron West Aboriginal Site	530	Transfer to Aboriginal land
Chappell Island Nature Reserve (part)	1 320	Transfer to Aboriginal land
Steep Island Game Reserve	30	Transfer to Aboriginal land
Babel Island Muttonbird Reserve	445	Transfer to Aboriginal land
Great Dog Island Muttonbird Reserve	377	Transfer to Aboriginal land
Risdon Cove Historic Site	2.7	Transfer to Aboriginal land
Risdon Cove Conservation Area	70	Transfer to Aboriginal land
Franklin-Gordon Wild Rivers National Park (part — Kutikina Cave)	152	Transfer to Aboriginal land
Wargata Mina Protected Site	155	Transfer to Aboriginal land
Maxwell Maxwell River Protected Site (Ballawinne Cave)	560	Transfer to Aboriginal land
Entally House Historic Site (part)	6,671	Sale
Tasman Arch State Reserve (part)	0.066	Sale
Green Point Nature Reserve (part)	0.559	Sale

Source: Department of Environment and Land Management, Annual Report, 1995-96

protect significant vegetation, such as blackwood and sclerophyll forests, rare eucalypts, alpine vegetation, coastal grasslands and other rare plants. The, as yet, unsigned Regional Forest Agreement will assist in the clarification of the balance between conservation and exploitation in many multiple-use areas.

Some reserves have been proclaimed for the protection of historic and Aboriginal values. In 1996, some of these areas were handed back to the Aboriginal community.

Feral goats in Tasmania

Goats have been a familiar, but minor, element of the agricultural landscape in Tasmania for over 150 years. A study of feral goats in Tasmania by the Parks and Wildlife Service (Atkinson et al. 1995) has shown that feral goats are more widespread and abundant than previously realised. Goats can outcompete other browsing livestock for food and shelter, and can act as vectors for diseases. They are also known to have damaged newly-established forestry plantations. Selective browsing and grazing can change the composition of plant communities dramatically. They eat plants down to ground level, and often uproot them. They can also prevent regeneration of canopy trees by eating the seedlings. Soil erosion is often caused, or exacerbated, by the feeding habits of feral goats and by trampling, particularly at locations where vegetation is sensitive to disturbance.

There have been 136 feral goat herds recorded from a wide range of habitats from sea level to the Central Plateau, in all areas except the cold, wet south-western region. Most herds will range across multiple land tenures, however 46% of herds occurred primarily on private land, including private forests, 23% were mainly in State forests, 20% spent most of their time on reserved land (World Heritage Area, national parks and other reserves) and 11% on unallocated Crown land.

A Parks and Wildlife Service control program for feral goats commenced in 1992. Whilst mustering has been employed, control has mainly been by free shooting. In the three years to mid-1995, feral goat herds had been reduced by 40%. While the greatest reduction in goat numbers has been in the north, nearly 50% of herds remain in the northern and north-eastern areas. Approximately 80 herds, consisting of around 1500 individuals are estimated to remain.

Tasmanian Wilderness World Heritage Area

In 1982, the three large western wilderness national parks (the Cradle Mountain-Lake St Clair, Southwest, and Franklin-Gordon Wild Rivers national parks) were inscribed on the World Heritage list by the World Heritage Committee of UNESCO. A further listing in 1989 enlarged the original area by approximately 600,000 hectares.

The Tasmanian Wilderness World Heritage Area now comprises 1.37 million hectares, or about 33% of the public estate, of essentially wild, natural country in central and south-western Tasmania. It includes areas of very tall eucalypt forest, extensive cave systems, a core breeding area for the endangered Orange-bellied Parrot and ice-age Aboriginal cave-art sites.

World Heritage Area management activities include providing visitors with information, interpretation and assistance; search and rescue; fire prevention and suppression; maintaining a range of visitor facilities; walking track upgrading and maintenance; research; rehabilitation; environmental monitoring; and exotic species control.

The National Estate in Tasmania

The Register of the National Estate is a list of those places of Australia's Aboriginal, historic and natural heritage which should be preserved for present and future generations. The register includes sites and objects of scientific, archeological and social importance, as well as outstanding geological features and landscapes. Also important are smaller sites, some of which are important habitats for flora and fauna enabling preservation of rare and endangered species. The National Estates Grants Program funds projects that identify, conserve or provide better knowledge about places of National Estate significance. In the past five years funding for Tasmania has steadily grown from \$618,000 in 1991-92 to \$681,000 in 1995-96. During 1995-96, grants for 33 new projects, including 7 in areas deemed to be under 'drought exceptional circumstances', were approved. These projects included the restoration of historic buildings, studies of Tasmanian unique flora and fauna, and better management of Aboriginal sites.

In August 1996, the National Estates Grants Program was shut down, with new funding to

come from other Commonwealth programs. About seventy projects in Tasmania will continue operating under existing arrangements until they are completed.

Recreation, tourism and the environment

Nature-based tourism is significant in Tasmania. The 1996 Tasmanian Visitor Survey estimates river cruises and short bushwalks are the most popular nature-based activities for adult visitors to Tasmania. Specific natural areas with high (estimated) rates of visitation in 1996 included Cataract Gorge (34.3% of adult visitors to Tasmania), Cradle Mountain (27.7%), Mt. Wellington (26.3%), and Franklin-Gordon Wild Rivers National Park (23.2%). Based on the total number of adult visitors to Tasmania of 472,900 adults, each of these places were visited by over 100,000 people.

Recreation and tourism activities can place significant pressures on the environment. Places of interest such as beaches, rivers and national parks need to be managed so that impacts on the environment are minimised. Effective management involves encouraging sustainable practices so that the value experienced from those recreation and tourism activities is not diminished.

During the past two decades there has been a large increase in the numbers of walkers in Tasmania's Wilderness World Heritage Area. About 20,000 people are spending 35,000 nights in Tasmania's wild areas every year, and in many areas such numbers are unsustainable. Such use has led to a rapid deterioration in the walking tracks throughout much of the region, unplanned track formation, trampling of

vegetation, crowding, and pollution. Of the 1000 km of tracks in the World Heritage Area, 200 km are already heavily eroded to a depth of 25 cm or more and it is likely that a further 400 km will erode within 20 years if decisive action is not taken. Walking Track Strategies are being implemented by the Parks and Wildlife Service to combat these problems.

Atmosphere

According to an ABS survey, air pollution has been the environmental issue of greatest concern to the average Australian. However, of all the States, Tasmanians are the least concerned about air pollution, and Victorians the most. Over time, the proportion of Tasmanians with concerns about air pollution has declined significantly, in line with the national trend.

Located on the edge of the near-pristine Southern Ocean, Tasmania is swept from the west and south by some of the cleanest air in the world. The quality of this air is then affected by emissions from industrial operations, motor vehicles, and commercial and domestic sources, as well as natural sources such as smoke from bushfires, salt spray, and wind-blown dust.

The many smaller industries spread around the State, as well as the transport and domestic sectors, tend to affect air quality on wider scales. The State currently uses about 450,000 tonnes of coal, 1 billion litres of petroleum products and 730,000 tonnes of firewood and wood waste per year. In addition to the 4.8 million tonnes of carbon dioxide that this fuel consumption releases (about 10 tonnes per person per year), there are many other gases and particulates in the emissions that can reduce air quality; these include carbon monoxide (e.g. from incomplete combustion), hydrocarbons (e.g. from unburnt fuel), lead (e.g. from leaded petrol), and organic particulates (e.g. from diesel engines and firewood).

ACTIVITIES OF ADULT VISITORS TO TASMANIA, 1996

Activity	Adult visitors %
Bushwalking (less than 2 hrs)	29.5
Bushwalking (2 hrs to all day)	18.2
Bushwalking (overnight or longer)	3.7
River cruise	26.4
Caving/visiting show caves	11.3
Boating/sailing	5.2
Scenic flight	3.3
4WD/recreational vehicle	3.2
Trout angling	2.9
Rafting	0.8
Canoeing/sea kayaking	0.5
Total number	472 900

Source: *Tourism Tasmania, Tasmanian Visitor Survey 1996*

PERSONS CONCERNED ABOUT AIR POLLUTION

	Tasmania %	Australia %
1996	20.3	30.9
1994	27.0	34.1
1992	34.0	40.2

Source: *ABS catalogue no. 4602.0*

The use of wood heaters has increased significantly since the late 1970s to the stage where two out of three homes use firewood as their main heating fuel. The combined effect of thousands of heaters within a single airshed has led to unacceptable concentrations of fine particulates, especially in calm winter-time conditions.

Regular air quality monitoring has been restricted to a number of regional-scale studies, mainly around Hobart and Launceston. The Cape Grim Monitoring Station measures air quality on a hemisphere-wide scale and is an integral part of a global network monitoring the atmosphere and climate.

Educating the community about transport-related air quality

Helen Pryor, of the Tasmanian Conservation Trust, and SOE Report

Because Tasmania has the oldest car fleet in Australia, certain environmental hazards of motor transport are more significant than on the mainland. The operation of 'Smog Busters' in Tasmania aims to raise community awareness about some of these issues.

Tasmania has proportionately more cars running on leaded petrol, and fewer having catalytic converters. This means that relatively high amounts of lead and particulates are emitted into the atmosphere. Monitoring in the Hobart suburb of Moonah has shown a decline in lead levels since the introduction of unleaded petrol. However, the continuing exposure of young children to lead is a concern, as it is known to impair their intellectual ability. Also, the links between particulates and respiratory diseases (including cancer) are becoming more firmly established.

Since the change to unleaded petrol, benzene levels in petrol have been increased to improve engine performance. This is of concern because benzene is toxic and a known carcinogen, but is not monitored in Tasmania. Atmospheric concentrations of carbon monoxide are also a concern, with the levels of this toxic gas in Hobart's central business district exceeding World Health Organisation standards for more than one third of a two-month period during 1991 (Power 1991).

Continued residential and industrial development in the urban-rural fringe is making people increasingly dependent on the motor vehicle. Furthermore, public transport in Tasmania relies primarily on bus services, which are perceived as inconvenient, infrequent and unreliable.

Recognising the importance of community action in generating change, the Commonwealth Government, through its Environmental Protection Agency, has responded to the problem of increasing car use and its resultant detrimental effects on air quality by providing \$516,000 to the community based Smog Busters network. The network has the following objectives:

- to raise community awareness of pollution issues arising from motor vehicle emissions;
- to mobilise community resources to promote increased use of public transport; and
- to test the effectiveness of community action as a means of promoting air quality objectives.

In Tasmania, the Smog Busters Project Officer, working with the Tasmanian Conservation Trust, is focusing on the Main Road corridor from Glenorchy to the Hobart Central Business District.

In addition, a Public Transport Users' Group has been established to represent community concerns about public transport and to encourage the development of user-friendly public transport within the State.

Water

Freshwater

Securing a clean and reliable water supply is one of the main factors affecting human development. Freshwater pollution was the second most nominated environmental concern of Tasmanians in 1996. The percentage of Tasmanians nominating freshwater pollution as an environmental concern has fallen steadily since 1992. The level of concern and downward trend are close to the national averages.

The health of our waterways relies on the quality of management of the surrounding catchment. Australia's catchments and rivers have been radically altered through human usage of water, urban and industrial development and land use practices. This has often resulted in a reduction of water quantity and a deterioration in water quality.

Effects of settlements and industry

Most inland towns in Tasmania have treatment plants to treat domestic, and sometimes industrial, wastes. Some of the newer plants dispose of effluent through irrigation, most plants still discharge to inland waters. Despite providing secondary treatment which removes bacterial and viral pathogens these plants are still a significant source of pollutants to inland waters, discharging organic matter, suspended solids, and nutrients. Moreover, while septic systems are common, possibly half of all rural properties are still discharging untreated effluent.

The clearing and construction work associated with urban expansion leads to soil erosion and high sediment levels in rivers and streams. By creating large areas of sealed surfaces, urban areas increase run-off, which increases the chances of flash flooding. In addition, runoff from urban areas is often contaminated with pollutants such as oil, lead from petrol, and pet faeces.

PERSONS CONCERNED ABOUT FRESHWATER POLLUTION

	Tasmania %	Australia %
1996	21.4	23.7
1994	24.6	25.5
1992	30.2	29.9

Source: ABS catalogue no. 4602.0

Some groundwater pollution has also occurred; most commonly from municipal landfill sites, leaking fuel storage tanks, manufacturing plants, and abattoirs.

Mining impacts

Most of the large metaliferous mines in Tasmania are on the West Coast. In these mines the percolation of oxygenated water through the workings and waste rock dumps generates acid mine drainage: an acidic fluid, rich in metals leached from the minerals in the rocks. Both the low pH and metals can cause severe ecological damage when it mixes with streams and groundwater. On-site ore processing also generates wastewater, polluted mainly with heavy metals and suspended solids. Most mines treat the wastewater to reduce the pollutant load. Coal mines and quarries also produce suspended solids, rock flour or coal fines, which are washed into streams.

The Mount Lyell copper mine is a striking case of what can happen when wastes are not treated. Mining started at Mt Lyell in the 1880s, with on-site ore concentration commencing in 1922. Waste (tailings) from the mine and concentrator were dumped into the Queen River, a major tributary of the King River, along with huge volumes of acidic, metal-rich water flowing from the workings. Being alkaline, the tailings neutralised some of the acid mine drainage, partly reducing the water's acidity and heavy metal load.

Since mining began, about 100 million tonnes of tailings have washed into the King River, choking the river and forming a 250 ha delta where it enters Macquarie Harbour.

After the mine lease changed hands in late 1995, there was a change in operating practices. Tailings are no longer dumped into the river system. However, in fixing one problem another was created. Acid water continues to enter the river, and without the buffering previously provided by the alkaline tailings, the acidity in the Queen and King rivers has increased, and dissolved metal concentrations have greatly increased, to levels highly toxic to aquatic life.

After more than three years of research, the final report of the Mount Lyell Remediation, Research and Demonstration Program was released in September 1997. It has recommended a range of strategies to remediate what is arguably Australia's most polluted river.

Water storages

In the settled areas of Tasmania the rivers during winter have a flow in excess of that needed to supply the human population's wants, but during summer the flow can be lower than what is desired. The storage of water in dams to provide for the summer time use of water is therefore crucial to Tasmania's economy.

Very little water is actually 'consumed' in Tasmania; nearly 97% of the water used each year runs through the power turbines of the Hydro-Electric Corporation. The impacts associated with power developments, irrigation schemes, and town water supplies include inundation, river diversion leading to flow reduction in some places and increased flows and stream erosion in others, water levels fluctuating in unnatural cycles, stagnation or eutrophication of the water, fish kills, and other ecological changes. In some instances, impacts associated with power generation have led the HEC to change its operation procedures in favour of environmental protection over system optimisation.

Alteration of wetlands

Wetlands are areas permanently or periodically inundated by water where sediments and nutrients accumulate. They form a critical link in many terrestrial and aquatic food webs, and the accumulation of nutrients means that they are highly productive areas. Wetlands support flora and fauna that have evolved to survive in a diverse and changeable environment. They have an important role in ensuring water quality by both physically filtering water and by removing chemicals through uptake by growing aquatic plants. They also help to control flooding by absorbing large amounts of water and then slowly releasing it down creeks and rivers or directly into the ground water table.

Drainage for agriculture is the major cause of decline of wetlands in Tasmania. Large areas of the north-east, north-west, and the east coast of Flinders Island were drained and cleared as part of the Soldier Settlement Schemes. Small wetlands and streams have been particularly affected by grazing, as stock trample and eat riparian vegetation and dirty the water when

they wade in to drink. State-wide, at least 7000 ha of Tasmania's wetlands have been destroyed by agricultural developments (Kirkpatrick 1991).

Urbanisation is another pressure responsible for the decline in the diversity and complexity of wetlands in Tasmania. Some wetlands near town centres have been filled in, while others have been changed by the increased sediment and nutrient load from urban run-off, which often favours exotic species over native species.

Around 800 wetlands covering 41,546 ha have been identified in Tasmania. Of these, 92 are considered of national importance, with a further 61 considered to be of State significance. Ten are considered to be of international significance and are listed on the Ramsar Convention on Wetlands; however, only one of these is an inland wetland (the rest are coastal wetlands).

Forestry, agriculture, and land clearance

Clearing of forest and woodland for forestry, pastures, and cropping substantially increases the volume of run-off and can increase the amount of sediment carried into streams. Along with the removal of riparian vegetation, these practices increase the flow rates of rivers, potentially increase stream erosion, smother aquatic life, and reduce water-quality downstream. Drainage to combat rising water tables often adds salty water to rivers. Nutrients from eroded soils, fertilizers, and animal wastes can contribute to algal blooms. Irrigation systems and farm dams alter the natural flow regimes in many rivers, putting further pressure on the aquatic ecology.

The use of herbicides and pesticides creates the potential for chemical pollution with the more persistent compounds remaining active in the food chain for many years. Whilst fewer than in the past, contamination problems still occur; with the use of the herbicide atrazine attracting particular attention in recent years.

New Tasmanian research is indicating that when the Forest Practices Code is strictly adhered to, most impacts on inland waters are greatly reduced, some to negligible levels. Also, many impacts are reversible with reforestation. The implementation of sustainable land management programs, Landcare projects, and other initiatives such as the development of a State Policy on the Protection of Agricultural Land will help reduce the water quality problems in agricultural catchments.

Responses

The past two years have seen a number of significant steps towards improving the management of Tasmania's inland waters. In January 1996 the Environmental Management and Pollution Control Act 1994 (Tas.) came into full force. The central principle of this Act is to prevent 'environmental harm'. In addition, a comprehensive review of the legislation covering water management in Tasmania has been announced. Due to be placed before Parliament by late 1998, this review is likely to recommend the overhaul and simplification of many of pieces of legislation, in particular the Water Act 1957 (Tas.). It will also assist in the implementation the Council of Australian Governments suggested reforms of the water industry.

In October 1997 the State Parliament approved the State Policy on Water Quality Management. This policy promotes integrated catchment management, and is in keeping with the National Water Quality Management Strategy.

Estuarine and marine

The percentage of Tasmanians nominating ocean pollution as an environmental concern has fallen steadily since 1992. This parallels a similar decline for all Australians.

By far the most well known impact on the Tasmanian marine environment is point-source industrial pollution and sewage effluent. However, run-off from farms, forests and urban areas are all sources of pollution of the coastal zone, and most arrives via the rivers and streams scattered along the coast. This pollution is probably the chief cause of water-quality degradation in terms of organic suspended solids, nutrients, chemical contaminants and so on, particularly if there is significant soil erosion in a watershed. Observations of coastal seagrass meadows (Rees 1993; Prestedge n.d.) have shown strong links between onshore changes and marine ecosystem variation.

Effects of settlements and industry

The degree and nature of effluent treatment for Tasmania's domestic, commercial and industrial wastes varies considerably. Some industries treat their waste whilst others rely on the sewerage system. Most of Tasmania's sewage treatment plants now have secondary treatment of wastes.

Heavy metals, suspended solids, nutrients, and organic wastes have been the main pollutants.

PERSONS CONCERNED ABOUT OCEAN POLLUTION

	Tasmania %	Australia %
1996	21.3	23.8
1994	26.3	26.7
1992	34.7	32.3

Source: ABS catalogue no. 4602.0

Metals can poison the marine food web, making fish and shellfish unfit for human consumption. Suspended solids smother marine life while organic wastes deplete the water of dissolved oxygen, while excess nutrients promote excessive algal growth which can lead to blooms.

The State's large mineral processors, its three pulp and paper mills, and the major food processors have greatly reduced the quantities of pollutants they emit. Unfortunately, it is becoming apparent that areas of the Tasmanian marine environment have been subjected to heavy contamination for so long that in places such as the River Derwent, deposits of polluted sediments are releasing considerable amounts of contaminants back into the estuarine system. In contrast, the less heavily polluted Huon estuary has been recovering more quickly after the improvements to effluent treatment around its shores.

Even though treatment of domestic and industrial effluent has improved, contaminated urban run-off/stormwater is of increasing concern. Stormwater run-off washes litter, leaves, oils, brake dust, petrol residues, dust, soil, nutrients, microorganisms, human and animal sewage (especially dog faeces), pesticides, herbicides, polychlorinated biphenyls (PCBs), solvents, detergents and heavy metals into coastal waters.

Fisheries and marine farming

Tasmania has seen some of its sea fisheries collapse following over-exploitation in the past. Recently, it appeared that the rock lobster harvest was becoming unsustainable and new controls are being implemented to protect stocks. Marine farming has been developing strongly in Tasmania, but if not managed effectively, the marine environment can rapidly be degraded (especially by the build-up of wastes around the farms).

Marine reserves

Formal recognition of the importance of preserving Tasmania's marine environment from the pressures of human exploitation has lagged behind that of terrestrial systems. Many areas protected before the 1990s were for bird sanctuaries. Despite the poor state of knowledge about Tasmania's marine environment, a more coherent strategy for marine conservation has been under development in Tasmania since 1991. A new system of marine reserves was initiated to:

- protect and preserve flora and fauna, ecosystems and features of special scientific, archaeological or historic importance;
- provide a range of interpretative facilities and educational activities;
- encourage natural history study and scientific research; and
- encourage recreational value which is consistent with the conservation and restoration of the natural environment.

Since then, four new marine reserves have been declared at: Maria Island (1500 ha); Governor Island (60 ha); Tinderbox (45 ha); and Ninepin Point (60 ha).

Developments in management

As with its inland waters, the management of Tasmania's marine environment had evolved into an inefficient patchwork of laws, regulations, and policies. Recent legislation (the *Living Marine Resources Management Act 1995* (Tas.) and the *Marine Farming Planning Act 1995* (Tas.)) aims to achieve sustainability in the management of the marine living resources of Tasmania and the aquaculture industry.

In response to the historical, economic, scientific, cultural, and recreational importance of the coast, the Tasmanian Parliament approved the State Coastal Policy. It is a statutory document, and therefore binding on all State agencies and local government. The Policy's major principles are:

- development of the coast shall be done sustainably;
- natural and cultural values of the coast shall be protected; and
- integrated management and protection of the coastal zone is a shared responsibility.

Land

In 1996, 7.0% of Tasmanians nominated land degradation as an environmental concern. This figure is close to the overall percentage of Australians nominating the same concern (7.7%). Since 1992, land degradation has declined as a concern, both in Tasmania and nationally.

European land management practices have led to considerable land clearing and modification. Some soils have been compacted by stock and others have been structurally altered by tilling and the addition of fertilisers. Many plant communities are under stress caused by altered fire regimes and changes in the soil. Weed invasion, and grazing by stock and possums is slowing tree regeneration. These pressures are threatening some plant communities with extinction.

Water erosion on cleared lands and altered soils severe enough to require treatment has effected about 5% of the agricultural land in the State (Grice 1995). Nutrients are being removed by soil erosion and the use of fertilisers to boost productivity has increased the amount of cadmium in some soils. This has led to limits being placed on cadmium levels (plus lead and mercury) in fertilisers.

The replacement of deep-rooted native vegetation with shallow-rooted pastures and annual crops, excessive irrigation, inadequate drainage and grazing pressures produce rising water tables. Waterlogging can result and as most soils and groundwater contain at least some salt, salt scalds can develop. This is a lesser problem than on the mainland with less than 1% of the total agricultural area of Tasmania affected (Grice 1995).

Landcare initiatives, new sustainable land management programs, the development of a State Policy on the protection of agricultural lands, and other initiatives will help these types

PERSONS CONCERNED ABOUT SOIL EROSION/SALINITY/LAND DEGRADATION

	Tasmania %	Australia %
1996	7.0	7.7
1994	8.3	9.6
1992	16.5	15.3

Source: ABS catalogue no. 4602.0

of problems in agricultural areas. New practices, such as those in the Forest Practices Code, and rehabilitation strategies have already markedly reduced land degradation problems that used to be associated with forestry and mining.

Recycling and Waste Disposal

In 1996, residents of Tasmania, along with Queensland and the Northern Territory, had fewer environmental concerns about garbage disposal than Australians on the whole. Between 1992 and 1996 the rate of concern about garbage disposal in Tasmania fell more quickly than it did nationally.

PERSONS CONCERNED ABOUT GARBAGE/RUBBISH/DISPOSAL

	Tasmania %	Australia %
1996	10.9	14.0
1994	12.4	15.7
1992	24.5	22.9

Source: ABS catalogue 4602.0

The total waste volume for both domestic and industrial sources in Tasmania is approximately 38 million m³ per year. This is made up of:

- domestic waste 34 million m³ per year (90%);
- industrial waste with appropriate disposal 3.1 million m³ per year (8%); and
- industrial waste with inadequate disposal 0.7 million m³ per year (2%).

In terms of solid waste, Tasmanians generate about 1 tonne per person per year. This figure is both close to the Australian average, and amongst the highest in the OECD. Landfill is the most common method of solid-waste disposal.

Consumers have reduced waste generation through recycling and composting. The proportion of households recycling various items has shown a substantial increase since 1992. This is true, both on a state and national level. Nationally, almost every selected item was recycled by a larger proportion of households in 1996 compared with 1992. Although the proportion of households recycling in Tasmania is increasing, it is still generally behind the national rates for a number of items including paper, glass, and cans.

HOUSEHOLDS RECYCLING

Item recycled	NSW %	Vic. %	Qld %	SA %	WA %	Tas. %	NT %	ACT %	Aust. %
March 1996									
Paper	78.1	76.8	71.3	70.2	67.7	63.1	39.1	98.4	74.5
Glass	74.0	74.9	76.8	74.9	60.5	68.3	30.4	96.4	73.4
Cans	57.2	61.8	70.2	70.5	58.2	53.3	26.2	88.5	62.1
Plastic	63.6	67.8	75.8	68.4	55.3	62.8	39.9	93.5	66.8
Kitchen/food waste	41.0	46.9	46.4	47.2	41.5	55.8	43.7	64.7	44.9
Garden waste	48.1	52.5	53.9	51.9	44.6	55.0	51.6	70.6	50.8
Old clothing/rags	66.2	67.4	67.4	63.7	65.2	66.7	60.8	77.1	66.6
No recycling	10.1	8.7	7.9	8.2	12.6	10.0	20.4	(a)	9.4
All items recycled	6.1	5.7	7.0	5.0	5.9	5.1	(a)	15.8	6.2
Percentage point change since May 1992									
Paper	20.6	9.7	34.1	26.8	8.2	24.7	12.4	34.4	19.8
Glass	22.7	4.9	33.5	18.8	3.6	21.1	15.4	40.8	18.1
Cans	17.7	8.1	35.9	18.1	4.0	27.3	5.4	59.8	18.0
Plastic	30.0	19.9	41.2	35.0	20.2	32.6	25.3	60.3	29.5
Kitchen/food waste	10.9	6.3	12.2	7.7	4.8	9.4	6.3	23.5	9.3
Garden waste	6.8	0.4	2.8	4.0	-1.1	1.4	2.1	17.7	3.5
Old clothing/rags	7.3	0.6	4.5	0.8	-4.1	3.0	8.5	3.4	3.3
No recycling	-7.5	-1.8	-11.1	-11.0	-0.1	-9.0	-26.8	(a)	-5.9

(a) Unreliable estimate.

Source: ABS catalogue no. 4602.0

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State of Environment Unit (Tasmania)

CHAPTER 3

Geography

Photo: The Examiner



A Hagley farmer watches jubilantly as rain falls on his crop of peas. The greatest number of rain days in a year in Tasmania was 314 at Waratah in the north-west in 1955; an Australian record.

The State of Tasmania is a group of islands lying south of the south-east corner of the Australian mainland. Roughly shield-shaped, with the greatest breadth in the north, the Tasmanian mainland extends from latitude $40^{\circ}38'$ south to $43^{\circ}39'$ south, and from longitude $144^{\circ}36'$ east to $148^{\circ}23'$ east.

The coastline is bound by the Southern Ocean on the south and west and the Tasman Sea on the east. Approximately 240 kilometres-wide Bass Strait separates the island from the Australian mainland. Macquarie Island, a part of the State, is situated at $54^{\circ}38'$ south, $158^{\circ}53'$ east in the Southern Ocean.

The area of the whole State, including the lesser islands, is 68,049 square kilometres or about 0.9% of the total area of Australia; it is just under one-third the size of Victoria, the smallest mainland State.

Apart from the Great Dividing Range in the east, continental Australia is predominantly a land of low plateaux and plains with little relief. In contrast, Tasmania could be called the island of mountains, since it has the largest proportion of high country to total area, compared with the other States.

Mainland Australia, extending north of the Tropic of Capricorn, and with much of its area in the zone of the sub-tropical anti-cyclones, is basically a warm, dry continent. Tasmania is in the temperate zone and practically the whole island is well watered with no marked seasonal concentration; there are no deserts or drought areas as found extensively on the adjacent mainland.

Being south of latitude 40° , it is on the edge of the wind belt commonly known as the Roaring Forties and, with South America, the nearest

land mass to the west, Tasmania's weather is subject at times to strong winds and heavy rain about the south and west coastal areas. Its insular position provides protection against temperature extremes; the variation between summer and winter mean temperatures in coastal towns rarely exceeds 8°C.

Physiography

Tasmania, a mere 296 kilometres from north to south and 315 kilometres from east to west, has a wide variety of mountains, plateaux and plains, of rivers, lakes, and tarns, of forest, moorland and grassland, of towns, farms and uninhabited country.

The temperate maritime climate partly explains Tasmania being called the most English of all States but other factors operate to heighten the comparison—the pattern of agricultural settlement with orchards, hedges and hopfields; the lake country; the early freestone architecture still common in the east and south-east and the roadsides and villages dotted with oaks, elms and poplars.

With 8 mountains exceeding 1,500 metres, 28 above 1,220 and a substantial part of the Central Plateau above 900 metres, Tasmania is an island of mountains. The tallest is Mt Ossa (1,617 metres) located with a group of mountains, including Cradle Mountain, to the north-east of Queenstown and west of the highland lake country on the Central Plateau containing Lake St Clair, Australia's deepest natural freshwater lake.

Although its rivers are short, Tasmania is covered with a network of rivers and lake systems. In the south, the Derwent flows from the Central Highlands past Hobart, providing one of the world's best harbours, to the sea at Storm Bay. The Gordon River takes the waters of Lake Gordon and Lake Pedder and is joined by the Franklin River before flowing into Macquarie Harbour in the west.

The Huon River drains eastwards from its headwaters at Scotts Peak Dam on Lake Pedder, reaching the sea in D'Entrecasteaux Channel south of Hobart. The State's longest river is the South Esk, which flows from the north-east to join the North Esk at Launceston to create the Tamar. Other rivers include the Mersey, Forth and Leven, which flow to the North Coast, and the Pieman and Arthur rivers on the West Coast.

PHYSICAL FEATURES

MAJOR ISLANDS — area (km²)

Brny	355
Cape Barren	462
Clarke	82
Flinders	1 341
Hunter	71
King	1 094
Macquarie	123
Maria	101
Robbins	99
Schouten	28
Three Hummock	70
Other islands	137
Mainland Tasmania	64 086

MOUNTAINS — Height (m)

Mt Ossa	1 617
Legges Tor	1 573
Barn Bluff	1 559
Mt Pelion West	1 560
Cradle Mountain	1 545
Stacks Bluff	1 527
Mt Massif	1 514
Mt Geryon	1 510

MAJOR LAKES — Area (km²)

Lake Gordon (a)	280
Lake Pedder (b)	250
Great Lake (c)	161
Arthurs Lake (c)	64
Lake Sorell (c)	53
Lake Burbury (a)	52
Lake King William (a)	43
Lake Echo (c)	40
Lake Mackintosh (a)	31
Lake St Clair (c)	29
Lake Pieman (a)	22

RIVERS — Length (km)

South Esk	214
Derwent	187
Gordon	181
Arthur	179
Huon	169
Mersey	160
Franklin	120
Pieman	97
North Esk	86

(a) Man-made. (b) Man-made — inundated the smaller natural Lake Pedder. (c) Natural lake enlarged by dams.

Source: 1:250,000 topographic maps, Land Information Bureau, Department of Environment and Land Management.

Climate

Tasmania, a large island in middle latitudes, enjoys for the most part a temperate maritime climate. The sea, never more than 115 km distant, suppresses temperature extremes. The prevailing westerly airstream leads to a marked variation of cloudiness, rainfall and temperature. The result is a West Coast and highlands that are cool, wet and cloudy and an East Coast and

lowlands that are milder, drier and sunnier.

Summers are mild, with any hot periods rarely lasting more than a few days. Rainfall is generally lower (in both amount and frequency) in summer, most notably in the west and north-west. Afternoon sea breezes are common along the coasts.

Winters are not excessively cold, especially compared to places at similar latitudes in the northern hemisphere that do not have the sea's moderating influence.

Westerly winds with embedded cold fronts often cross the State, and these can bring cold outbreaks and snow to low levels. Every so often winds will be light, the skies clear and the mornings cold and frosty.

Winds

The Roaring Forties, a belt of winds squeezed between the subtropical ridge and the sub-Antarctic trough affect Tasmania directly. The greatest strength and persistence of these winds occur during late winter and early spring, but the speed and direction vary with the passage of high and low pressure systems.

In the summer months, when the westerlies are weak, afternoon sea breezes become the predominant wind in most areas. Periods of more humid north-easterly winds are most likely in the summer and early autumn.

Gales are most likely to come from the western quarter as deep lows pass just south of Tasmania. The highest recorded wind gust in Tasmania was 150 km/h in Hobart 28 September 1965, although higher, unrecorded gusts are almost certain to have occurred about the rugged south-west coast.

Temperature

There are 3 main influences on the temperature climate of Tasmania. Proximity to the sea ensures coastal locations will have a milder temperature regime than inland ones.

Temperature decreases with height (by about 0.7°C for every 100 m in the free atmosphere), making elevated locations generally cooler than low level ones. Finally, cloudiness in the west, a result of the persistent westerly winds, suppresses daytime temperatures there.

The normal daily temperature range close to the coast is around 7°C but can be double that inland. The high mountains and the Central Plateau are remote from the sea's moderating influence, and there the night temperatures in particular can be low, especially in winter.

Tasmania only occasionally experiences the hot days common in the mainland States. High temperatures in the east and the south-east generally occur when warm air is advected across the State from the mainland. Bass Strait cools the lower layers of this air, moderating temperatures along the northern coast.

Mean maximum temperatures during summer are in the range of 18°C to 23°C, and during winter between 9°C and 14°C. In elevated regions the temperatures are about 5°C lower. Maximum temperatures may approach 40°C in the east and south-east of Tasmania during January and February, generally the hottest months throughout the State. The highest temperature in Tasmania has been 40.8°C, recorded at Bushy Park on 26 December 1945 and at Hobart Regional Office on 4 January 1976.

Mean minimum temperatures during the summer months range from about 10°C to 15°C except at elevated locations away from the coast,

CAPITAL CITIES CLIMATIC AVERAGES (a)

	Hobart	Melbourne	Sydney	Brisbane	Darwin	Adelaide	Canberra	Perth
Temperature (°C) (b) (c)								
Mean daily maximum	17.1	20.0	22.1	25.4	32.0	22.1	19.6	23.9
Mean daily minimum	8.7	11.0	14.2	15.8	23.3	12.0	6.5	14.0
Extreme highest	40.8	45.6	45.3	39.6	38.9	46.1	42.2	46.7
Extreme lowest	-2.8	-2.8	2.1	0.6	10.4	-0.4	-10.0	-1.1
Sunshine								
Mean daily hours (d)	6.1	6.2	7.1	8.0	8.6	7.5	7.5	8.3
Rainfall (e)								
Mean annual (mm)	586	639	1 302	1 225	1 719	561	623	819
Mean annual days of rain	151	143	136	122	111	123	105	116

(a) Where sufficient data are not available from a central city location, observations from the nearby airport have been used. (b) Temperature means are based on available data from 1961 to 1990. (c) Temperature extremes are based on all available data; from Adelaide this includes both the current Kent Town site and the old West Terrace site. (d) Sunshine means are based on available data from 1977 to 1996. (e) Rainfall means are based on available data from 1961 to 1990.

Source: Bureau of Meteorology

TEMPERATURES AT SELECTED STATIONS, TASMANIA, 1996 (°C)

Station	Summer (Dec to Feb)		Autumn (Mar to May)		Winter (June to Aug)		Spring (Sep to Nov)	
	Mean max.	Mean min.	Mean max.	Mean min.	Mean max.	Mean min.	Mean max.	Mean min.
Burnie	19.6	12.2	17.2	10.1	12.8	6.7	15.2	7.9
Bushy Park	21.7	9.0	17.2	5.6	11.9	2.0	16.9	4.8
Currie PO	18.8	11.2	17.1	10.3	13.7	8.7	15.6	9.5
Flinders Island Airport	19.5	12.0	17.6	10.4	13.6	6.8	16.5	8.6
Hobart (Ellerslie Rd)	19.2	11.1	16.8	9.0	12.4	5.4	16.6	7.6
Launceston Airport	21.1	9.6	16.8	6.2	11.4	3.1	15.3	5.5
Liawenee	16.4	4.3	11.2	1.8	5.5	-1.7	10.4	0.0
Macquarie Island	8.3	4.8	7.5	4.2	4.7	1.4	6.3	2.8
Smithton	20.3	10.0	17.2	7.6	12.9	4.3	15.8	6.4
Strahan Airport	19.8	9.1	16.9	7.8	12.5	5.0	15.6	6.8
Swansea	19.8	10.9	17.8	8.1	13.5	4.6	17.4	7.0

Source: Bureau of Meteorology

where mean minimum temperatures range from 5°C to 8°C. During winter, mean minimum temperatures are typically in the range 4°C to 6°C in coastal areas, and between -2°C and +2°C in elevated and inland areas. The lowest temperature on record is -13°C, at Shannon, Tarraleah and Butlers Gorge on 30 June 1983.

Rainfall

The interaction of airstream and topography is the main factor governing rainfall in Tasmania. Consequently the annual rainfall varies markedly across the State, averaging less than 600 mm in the Midlands but over 3,500 mm in some part of the mountainous west. The highest rainfalls occur in remote, unpopulated regions.

On the west coastal strip, average annual rainfall is around 1,500 mm, but it is more than double this on the nearby mountains. This is a result of the mountains intercepting the moisture laden westerly winds, forcing the air to rise and cool, and rain to form. These westerly winds are less common in the warmer months, and in the west the rainfall in winter months is double that received in summer.

Annual totals decrease further to the east, then decline rapidly as the land falls away into the Midlands and the Derwent Valley. Here, the air in westerly winds descends and warms, and rainfall is less likely.

Along the North-west Coast, annual averages are around 800 mm, but the marked increase away from the coast (and into the hills) is also evident. Like the West Coast, rain is more prevalent in the winter. In the south-east corner, the high country extends almost to the shore but the annual rainfall falls away to around 600 mm on

the coast. The peaks of the north-east highlands have annual totals more than 1,500 mm, with the heaviest falls there coming not from westerly winds but as a result of east coast lows.

Whilst Tasmania experiences a generally reliable rainfall, there are periods when rainfall is significantly below or above the average. These are due mainly to changes to the broad scale meteorological and oceanographic situation, which affects the number of rain bearing systems over the State. Rainfall is less reliable over the eastern half of the State than in the west.

The highest rainfall accumulated in a calendar year was 4,504 mm at Lake Margaret Dam, in the highlands of the West Coast, in 1948. The greatest number of rain days in a year was 314 at Waratah in the North-west in 1955, which was a record for Australia.

The highest rainfall in 24 hours between successive 9 a.m. readings was 352 mm at Cullenswood (in the north-east highlands), on 22 March 1974.

Snow, hail and thunderstorms

In the highlands, above the 900 metre level, snow can occur at any time of the year. Heaviest snowfalls tend to occur in July and August. Extensive snow below 150 metres occurs less than once every 2 years on average, associated with a vigorous outbreak of cold air from the deep south. There is no permanent snowline, but patches of snow often remain on the highest peaks until December.

Thunderstorms may occur throughout Tasmania, but are more common in the west and north of the State. Accurate statistics about

ANNUAL RAINFALL, TASMANIA

Station	1994 mm	1995 mm	1996 mm	Long-term average (a)
Bicheno	455	846	712	n.a.
Burnie	717	947	1 121	987
Bushy Park	570	550	728	601
Currie (Post Office)	722	631	n.a.	902
Devonport Airport	492	740	875	816
Flinders Island Airport	527	629	745	780
Glenorchy Reservoir	704	839	999	764
Hobart (Ellerslie Road)	455	642	750	586
Hobart Airport	334	631	563	513
Lake Margaret (Power Station)	3 438	2 985	3 527	2 898
Launceston (Ti Tree Bend)	493	696	n.a.	n.a.
Launceston Airport	465	677	n.a.	660
Liawenee	1 079	941	1 427	n.a.
Macquarie Island	1 081	973	n.a.	906
Queenstown (CMT)	2 867	2 552	n.a.	2 468
Scottsdale	678	924	1 131	n.a.
Smithton	1 031	1 023	1 320	1 104
Southport	n.a.	1 225	1 295	n.a.
St Helens (Post Office)	500	812	693	754
Strahan Airport	n.a.	1 658	2 016	n.a.
Srathgordon	2 917	2 460	n.a.	n.a.
Swansea	272	752	558	572
Waddamana	888	782	1 038	805

(a) At least 25 years of observations are required for the calculation of this figure. The period covers 1961 to 1990.

Source: Bureau of Meteorology

thunderstorms are difficult to accumulate but the available information suggests there are fewer than 10 per year at any location in Tasmania. Severe thunderstorms (those thunderstorms producing gusts greater than 90 km/h, tornadoes, large hail or flash flooding) are much less frequent. Recent notable severe thunderstorms include the Pyengana storm of 9 December 1985, when rainfall rates in excess of 120 mm/hr caused flash flooding. The Smithton tornado of 22 November 1992 damaged 12 homes, left a trail of destruction 14 kms long and had wind speeds estimated to have reached 280 km/h.

Small hail, less than a couple of millimetres in width, may occur in showers that develop in cold air, but larger hail is associated only with thunderstorms. The far south-west of Tasmania has the highest number of days of hail occurrence recorded in Australia; most of this takes the form of showers of small (non-thunderstorm) hail.

Floods

In Tasmania, floods predominantly occur in autumn, winter and spring. However, they can occur at any time of the year and some of the most significant floods have occurred in

summer. The annual flood damage bill averages about \$5.1 million.

One river system that experiences serious flooding is the South Esk River. This, along with the Macquarie, Meander and the North Esk rivers, forms the Tamar River Basin, with a combined catchment area of nearly 9,000 square kilometres. Floods can be widespread and disruptive, affecting Launceston and Longford, as well as many small rural townships. Twenty-two people drowned in April 1929, the greatest loss of life for any single Australian flood.

Minor floods in the Derwent, Forth and Mersey rivers do not occur with the same regularity as in the South Esk, because of the Hydro-Electric Corporation power generation storages. However, these storages have little effect during major floods. Record floods swamped New Norfolk in April 1960.

Many of the smaller river systems in the north and north-west, about the East Coast and the south-east are subject to flash flooding. The rapid rise and fall of these fast flowing systems can cause significant damage. The Hobart floods of April 1960 caused about \$546,000 of damage. Flash floods about the south-east in February 1996 resulted in a \$10 million damage bill.

River levels in the Huon River can also rise very quickly, particularly during spring when snowmelt can be significant. Flooding of rivers in the west and south of the State go largely unnoticed as they pass through rugged, sparsely populated regions.

Humidity

The mean relative humidity exceeds 50% at most Tasmanian stations throughout the year, the exceptions being inland stations in summer. Relative humidity is generally higher in the morning than the afternoon, and higher in coastal areas than inland. Days of high temperature combined with uncomfortably high humidity are rare, and usually associated with a north-easterly airstream. In the east, south-east and the Fingal Valley, warm dry winds from a west or north-west direction may occasionally have a relative humidity as low as 10%. This is a result of air descending from just above mountainous terrain into lowlands.

Evaporation

In the northern Midlands the annual evaporation is nearly 1,500 mm due largely to the prevalence of winds coming from the Western Tiers, which become warmer and drier as they descend. This area of high evaporation extends to the lower Derwent Valley and the Huon. Mean monthly evaporation is nearly 200 mm in the summer in these areas, but is closer to 30 mm in winter. Evaporation in western, central and southern regions is much lower, normally less than 750 mm each year, ranging between 15 mm per month in winter and about 100 mm per month in summer.

Droughts

Droughts have not affected Tasmania as severely as the Australian mainland. However, there have been several droughts in the history of Tasmanian settlement that have had serious consequences. Drought in Tasmania is generally not widespread, instead affecting only some regions. It is not unknown for one part of the State to be experiencing very low rainfall while elsewhere the rainfall is very much above normal. Recent significant droughts are those of 1982-83, 1987-88 and 1993-95.

Bushfires

Bushfires are a regular feature during the warmer months in Tasmania. Although occasionally caused by lightning, they are more frequently started by accidental or deliberate

human activity. The highly flammable nature of the buttongrass moorlands of western Tasmania allows fires fanned by strong winds to burn large areas, even when the ground is waterlogged. Bushfires in forest areas generally develop after a dry spell and may become particularly dangerous at times of strong wind, high temperature and low humidity, such as ahead of some cold fronts. The most significant damaging bushfires in recent history were those of 7 February 1967 in south-east Tasmania, in which 62 people died and nearly 1,500 major buildings were destroyed. Other recent major fires include the Zeehan fire of 3 February 1981, which destroyed 39 homes, and the Pelverata and Bonnet Hill fires of 25 February 1991 in which 6 houses were burnt.

Sunshine

At Tasmania's latitude there is a marked change in day length from summer to winter. In midsummer there can be over 15 hours of bright sunlight; twilight can extend to as late as 9.30 p.m. (daylight saving time). The lower solar angle in midwinter cuts sunshine to around 9 hours, with darkness falling by 5.15 p.m. Cloud, rain and nearby hills will further reduce the amount of bright sunshine on most days.

In January, the West Coast averages around 6 hours of bright sunshine per day while the northern Midlands average over 9 hours per day. Winter values are much less, averaging less than 2 hours in the west and around 4 hours in the east.

Frost and fog

Frosts can occur throughout the year in all areas apart from the extreme coastal strip, where the frost season extends from about March to November. The dates of first and last frost vary markedly from year to year. Local factors, such as valleys where cold air pools, heavily influence frost occurrence.

Fog is prevalent in Tasmania, particularly during autumn. It also occurs frequently in winter, especially in the inland river valleys. Hobart is occasionally subject to fog.

Fog also occurs over the inland lakes, following light winds and cold nights. Occasionally sea fog moves over coastal districts, especially along the northern and eastern coasts.

Hobart's climate

Rainfall

Hobart City has the second-lowest annual average rainfall of any Australian capital, after Adelaide. There is a strong gradient in rainfall from sea-level areas (around 600 mm) to the elevated suburbs (more than 1,400 mm). The annual rainfall at the observing site in Ellerslie Road, Battery Point, has averaged 623 mm over the last 115 years. The driest year was 1979 with 390 mm; the wettest 1916 with 1,104 mm. Rainfall is fairly uniform through the year. The wettest month recorded was March 1946 with 255 mm, and the driest was December 1994, with only 0.4 mm.

Temperature

Mean daily maximum temperatures are above 20°C in summer but below 12°C in winter. There are about 6 days each year when the temperature exceeds 30°C. The highest temperature recorded, 40.8°C in January 1976, is also the highest for the State. On some winter days the temperature has not exceeded 5°C. Mean daily minimum temperatures are about 12°C in summer and 5°C

in winter. Temperatures below 0°C normally occur only once or twice each year; the lowest temperature recorded in Hobart City was -2.8°C in June 1972 and again in July 1981.

Snow and hail

Mount Wellington is often capped with snow (especially in winter and spring) but snow falls in Hobart City on average only once or twice a year. It is even rarer for this snow to settle on the ground. Hail falls on average 3 days a year, mostly in spring.

Frost and fog

Frost forms at the Battery Point site on an average of 25 days each year. It is more common in other locations in the city, such as sheltered valleys. Fog forms in the city on an average of 5 days each year.

Sunshine and cloud

Daylight hours are shorter in winter than summer, but cloudiness varies little. The average for bright sunshine in January is about 8 hours per day, but in June it is less than 4. Cloud cover averages about 70% of the sky throughout the year.

CLIMATIC DATA FOR HOBART (a)

	Temperature				Mean daily bright sunshine h	Maximum wind gust km/h	Rainfall		
	Mean maximum C	Mean minimum C	Extreme highest C	Extreme lowest C			Mean monthly total mm	Mean monthly days mm	Highest daily total mm
January	21.5	11.8	40.8	4.5	7.9	130	48.9	11.1	75.2
February	21.6	11.9	39.3	3.4	7.2	121	39.9	9.5	61.0
March	20.1	10.7	37.3	1.5	6.3	128	46.0	11.3	88.1
April	17.2	8.9	30.6	0.7	5.2	141	52.9	12.4	132.3
May	14.3	6.9	25.7	-0.7	4.2	135	47.7	13.4	47.0
June	11.8	5.1	20.1	2.8	3.9	147	54.5	14.0	147.3
July	11.6	4.5	21.0	-2.8	4.4	128	53.8	15.1	63.8
August	12.9	5.2	24.5	-1.8	5.0	141	52.8	15.4	64.8
September	15.0	6.3	31.0	-0.4	5.9	150	51.9	15.1	156.2
October	16.9	7.7	34.6	0.6	6.5	141	62.8	16.3	65.5
November	18.5	9.2	36.8	0.3	6.9	135	54.8	14.3	63.2
December	20.2	10.7	38.9	3.4	7.4	122	58.0	12.9	84.6
Annual	16.8	8.2	40.8	-2.8	5.9	150	624.0	160.8	156.2

(a) These means and extremes are based on all available data. The period of record varies between elements; rainfall and mean temperatures start in 1981, extreme temperatures in 1912, sunshine in 1931, and wind gusts in 1944. All except sunshine are still being recorded.

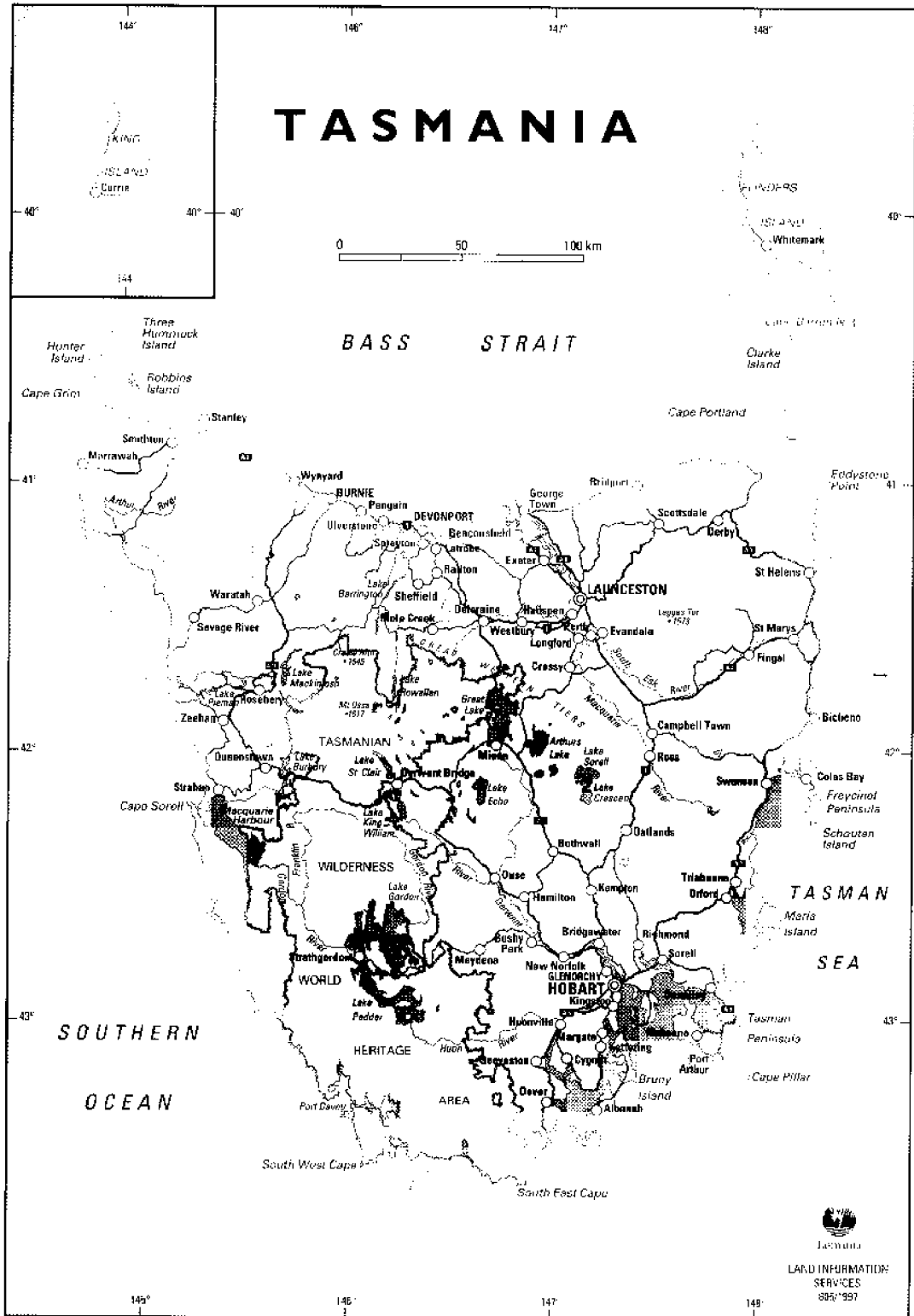
Source: Bureau of Meteorology

Further reading

Bureau of Meteorology, Hobart, *Monthly Weather Review, Tasmania*

Acknowledgements

Bureau of Meteorology
Department of Environment and Land Management



CHAPTER 4

Government

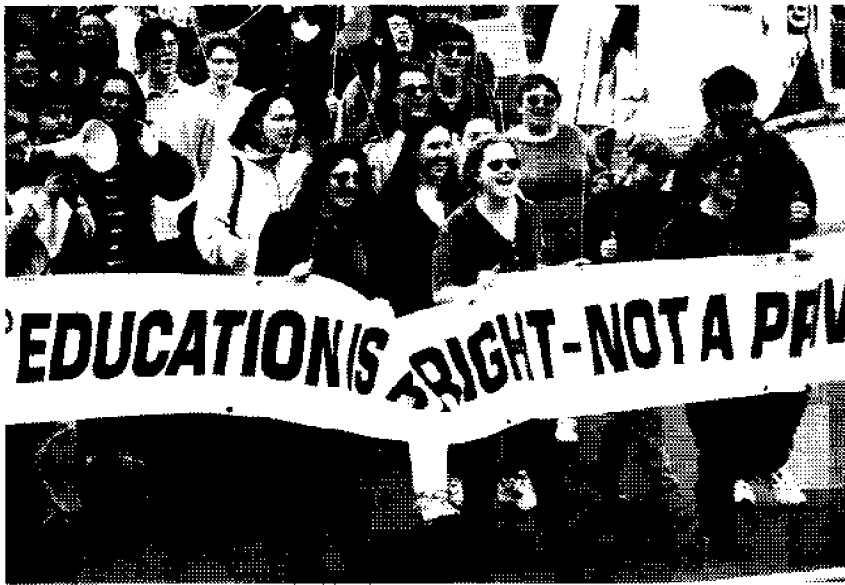


Photo: The Mercury

Students from the University of Tasmania marched through Hobart in August 1996 in protest about Federal Budget cuts to education and rises in HECS fees.

Since 1 January 1901, Australia has been a federation of 6 States. In 1911, two Territories, the Australian Capital Territory and the Northern Territory, were transferred to the Commonwealth from New South Wales and South Australia. This federal system of government is based on British-derived parliamentary institutions (the Westminster system) and American-derived federal arrangements. Under this system, government in Tasmania is exercised at 3 levels:

- Commonwealth Government, with authority based on a written constitution and centred in Canberra;
- State Government, with residual powers (powers not reserved for the Commonwealth), and centred in Hobart; and
- local government, with authority derived from State Acts, and operating in 29 subdivisions of the State.

Commonwealth Government

Legislative power of the Commonwealth is vested in the Commonwealth Parliament which consists of the Sovereign, Queen Elizabeth II (represented by the Governor-General), the Senate and the House of Representatives.

The Governor-General

Under the Commonwealth Constitution, ultimate executive power is vested in the Crown and is exercised by the Governor-General as the direct representative of the Queen. The Queen's status is set out by the *Australia Act 1986*.

The Governor-General's powers include summoning, proroguing and dissolving Parliament, recommending appropriations, assenting to Bills, issuing writs for general elections, appointing and dismissing Ministers, submitting proposals for referendums, making

Proclamations and Regulations, creating government departments and making statutory appointments.

On 16 February 1996 Sir William Deane, a High Court Judge, was sworn in as Australia's 22nd Governor-General. He was appointed a Knight of the British Empire in 1982 and a Companion in the Order of Australia in 1988.

The Senate

The Senate was originally constituted with the aim of protecting the rights and interests of the States. Today, its main function has become generally that of a house of review.

Since 1984 each State has been represented by 12 senators. In addition, the Australian Capital Territory and the Northern Territory have been represented by 2 senators each since the election of 13 December 1975. Each senator's term is normally 6 years, as half the Senate seats come up for election every 3 years. However, in the case of a double dissolution of both Houses, half the senators are elected for a 6-year term (the first 6 elected in each State) and half for a 3-year term.

In Senate elections each State is an electorate. Electors are required to cast a vote for every candidate standing within the State in order of their preference or for a party or group. Election of members is carried out in accordance with the principles of proportional representation by the single transferable vote.

If a vacancy occurs in the Senate, the appropriate State Government, usually by a joint sitting of Parliament, nominates a replacement of the same political affiliation, who sits for the remainder of the term.

The House of Representatives

When designing the House of Representatives, the founders of the parliamentary system envisaged a legislative body representing the national interest. The party holding a majority of seats in the House of Representatives, therefore controlling the House, provides the Government. Australia is divided into 148 single-member electorates of which 5 must be Tasmanian.

Election of members is carried out in accordance with the principles of the absolute majority through use of preference voting. If a vacancy occurs, it is filled by holding a by-election. Elections must be held at least every 3 years.

Representation in the House of Representatives is based upon the general principle of having, as near as practicable, electorates with equal numbers of electors. This is provided by regular electoral redistributions undertaken by an independent Electoral Commission.

HOUSE OF REPRESENTATIVES MEMBERSHIP BY STATE, 1997

	Members no.
New South Wales	50
Victoria	37
Queensland	26
South Australia	12
Western Australia	14
Tasmania	5
Northern Territory	1
Australian Capital Territory	3
Total	148

Source: Australian Electoral Commission

HOUSE OF REPRESENTATIVES, TASMANIAN MEMBERS, MAY 1997

Member	Party affiliation	Electorate
Adams, D.	ALP	Lyons
Kerr, D.J.C.	ALP	Denison
Miles, C.G.	Liberal	Braddon
Quick, H.	ALP	Franklin
Smith, W.L.	Liberal	Bass

Source: Australian Electoral Commission

TASMANIAN SENATORS, MAY 1997

Senator	Party affiliation	Term expires
Abetz, E.	Liberal	1999
Brown, R.J.	Tas. Greens	2002
Calvert, P.H.	Liberal	2002
Denman, K.	ALP	1999
Gibson, B.	Liberal	1999
Harradine, R.W.B.	Independent	1999
Mackay, S.M.	ALP	2002
Murphy, S.	ALP	1999
Newman, J.N.	Liberal	2002
O'Brien, K.	ALP	1999
Sherry, N.J.	ALP	2002
Watson, J.O.W.	Liberal	2002

Source: Australian Electoral Commission

House of Representatives and Senate elections, 1996

The federal election of 2 March 1996 saw a Liberal Party–National Party Coalition Government elected under the leadership of the Prime Minister, John Howard.

In Tasmania, the election resulted in the Labor Party retaining Denison, Lyons and Franklin, and the Liberal Party gaining the seat of Bass and retaining the seat of Braddon.

In the Senate the Liberal Party won 3 seats, the Labor Party won 2 seats and the other seat was won by the Tasmanian Greens Party.

Tasmanian Government

The Tasmanian Constitution was limited by the establishment of the Commonwealth Constitution. In effect, the Parliament of Tasmania may make laws operative within the State upon all matters not within the exclusive power of the Australian Parliament but, on those matters for which the Australian Government may also legislate, the Tasmanian law may be superseded by the passing of an Act by the Commonwealth Parliament.

Tasmania's legislature consists of the Queen, represented by the Governor, and 2 Houses of Parliament: the Legislative Council and the House of Assembly.

In recent times, there has been significant debate about parliamentary reform. The debate has centred around whether to dispose of the bicameral system, and reduce the Parliament from 2 Houses to 1, or to retain both Houses of Parliament and keep the Legislative Council.

Debate has also focused on whether to reduce the number of members, regardless of whether a unicameral system is adopted or a bicameral system is retained.

The Governor

The Governor of Tasmania is the representative of the Sovereign in the State and exercises the powers of the Crown in State matters. The Queen appoints the Governor on the advice of the Premier, generally for a five-year term. Powers and duties of the Governor are similar to those of the Governor-General and were gazetted in March 1986.

On all official State occasions, the Governor performs the ceremonial functions as the representative of the Queen. The Governor summons and terminates Parliament; in special circumstances dissolving it after considering the advice of the Premier. Bills which have passed all stages in Parliament are submitted to the Governor for assent. The Governor opens each session of Parliament by outlining the legislative program of the Government, but takes no other part in the sittings of either House.

GOVERNORS, ACTING GOVERNORS, ADMINISTRATORS, FROM 1924

Name	Designation	Term of office	
		From	To
Sir James O'Grady, KCMG	Governor	23.12.24	23.12.30
Hon. Sir Herbert Nicholls, KCMG	Lieutenant-Governor	23.12.30	04.08.33
Sir Ernest Clark, KCB, KCMG, CBE	Governor	04.08.33	04.08.45
Hon. Sir John Morris	Administrator	04.08.45	24.12.45
Admiral Sir Hugh Binney, KCB, KCMG, DSO	Governor	24.12.45	08.05.51
Hon. Sir John Morris, KCMG	Administrator	08.05.51	22.08.51
Rt Hon. Sir Ronald Cross, Bt, KCMG, KCVO	Governor	22.08.51	04.06.58
Hon. Sir Stanley Burbury, KBE	Administrator	04.06.58	21.10.59
Rt Hon. Lord Rowallan, KT, KBE, MC, TD	Governor	21.10.59	25.03.63
Hon. Sir Stanley Burbury, KBE	Administrator	25.03.63	24.09.63
Lt-General Sir Charles Gairdner, GBE, KCMG, KCVO, CB	Governor	24.09.63	11.07.68
Hon. Sir Stanley Burbury, KBE	Administrator	11.07.68	02.12.68
Lt-General Sir Edric Bastyan, KCMG, KCVO, KBE, CB	Governor	02.12.68	30.11.73
Hon. Mr Justice Green	Administrator	30.11.73	05.12.73
Hon. Sir Stanley Burbury, KCMG, KCVO, KBE	Governor	05.12.73	01.04.82
Hon. Sir Guy Green, KBE	Lieutenant-Governor	01.04.82	30.09.82
Sir James Plimsoll, AC, CBE	Governor	01.10.82	08.05.87
Hon. Sir Guy Green, KBE	Lieutenant-Governor	09.05.87	18.10.87
General Sir Phillip Bennett, AC, KBE, DSO	Governor	19.10.87	30.06.95
Hon. Mr Justice William Cox	Administrator	30.06.95	02.10.95
Hon. Sir Guy Green, AC, KBE	Governor	02.10.95	present

The Governor's executive powers include the appointment of ministers of the Crown, judges and other important State officers but not those whose appointments may be made by certain statutory corporations. By appointing ministers of the Crown, the Governor creates the Executive Council of the day and is required by instructions to be guided by the advice of this body. The Governor may act against the advice of the Executive Council, but the reasons for such action must be immediately reported to the Queen.

The Cabinet and executive government

In Tasmania, as in the other States and the Commonwealth, executive government is based on the system which evolved in Britain in the 18th century, and which is generally known as 'Cabinet', or 'responsible' government. Its essence is that:

- heads of the State (in Tasmania, the Governor) should perform governmental acts on the advice of ministers;
- heads of the State should choose ministers of State from members of Parliament belonging to the party, or coalition of parties, commanding a majority in the popular House;
- the ministry, the Cabinet, so chosen should be collectively responsible to that House for the government of the State; and
- the ministry should resign or advise an election if it ceases to command a majority in the House.

The Cabinet system operates chiefly by means of constitutional conventions, customs or understandings, and through institutions that do not form part of the legal structure of government.

In law, the executive power of the State is exercised by the Governor who is advised by, and appoints the Executive Council.

The Premier

The Honourable Tony Rundle was sworn in as leader of the Parliamentary Liberal Party and Premier of Tasmania on 18 March 1996, succeeding The Honourable Ray Groom who stepped down after the election on 24 February 1996.

First elected as a member for Braddon in 1986, Mr Rundle has been re-elected at the 1989, 1992 and 1996 State Elections.

He was Government Whip in 1986 and Speaker of the House of Assembly in 1988.

Mr Rundle currently holds the portfolios of Premier, Treasurer and Minister for State Development.

PREMIERS OF TASMANIA FROM 1923

Name	Term of office	
	From	To
J.A. Lyons	25.10.23	15.06.28
J.C. McPhee	15.06.28	15.03.34
Sir Walter Lee	15.03.34	22.06.34
A.G. Ogilvie (a)	22.06.34	10.06.39
E. Dwyer-Gray	11.06.39	18.12.39
R. Cosgrove	18.12.39	18.12.47
E. Brooker	18.12.47	25.02.48
R. Cosgrove	25.02.48	26.08.58
E.E. Reece	26.08.58	26.05.69
W.A. Bethune	26.05.69	03.05.72
E.E. Reece	03.05.72	31.03.75
W.A. Neilson	31.03.75	01.12.77
D.A. Lowe	01.12.77	11.11.81
H.N. Holgate	11.11.81	26.05.82
R.T. Gray	26.05.82	29.06.89
M.W. Field	29.06.89	17.02.92
R.J. Groom	17.02.92	18.03.96
A.M. Rundle	18.03.96	present

(a) Tasmania had an unbroken succession of Labor premiers, starting with the Ogilvie ministry (1934) until the electoral defeat of the Reece government on 26 May 1969.

The House of Assembly

The Tasmanian Lower House comprises 35 members elected for a term of 4 years from 5 seven-member electorates.

Electoral system

Tasmania uses a system of proportional representation known as the Hare–Clark system in elections for the House of Assembly. The essential features of the system in Tasmania are:

- Party groups, if officially registered, are identified on ballot papers.
- Candidates' positions within groups are rotated so that in 'preferred' positions, all candidates appear on the same number of ballot papers.
- A valid vote must show at least 7 preferences.
- To secure election, candidates must gain a quota—the total first preference votes divided by 8, plus 1 vote.
- On polling day, no media advertising and no soliciting of votes near the polling booth is permitted.
- The constituencies are the same 5 divisions as used for House of Representatives elections.
- There are no by-elections; a vacant seat is filled by a count-back of the vote at the last election.

State elections 1989–96

The May 1989 poll resulted in the Green Independents holding the balance of power in the Parliament, with no party able to govern in its own right. The 5 Green Independents and the parliamentary Labor Party signed an 'Accord' which ensured the Labor Party majority support in the Parliament. The Accord ended in October 1990 after Cabinet endorsed the Forests and Forest Industry Strategy.

Parliament passed the legislation in November 1991. An election was called by the Labor Party Premier, Michael Field, for February 1992. This resulted in the election of 19 Liberal Party members, 11 Labor Party members and 5 Green Independents. The Liberal Party, led by the Hon. Ray Groom, formed government.

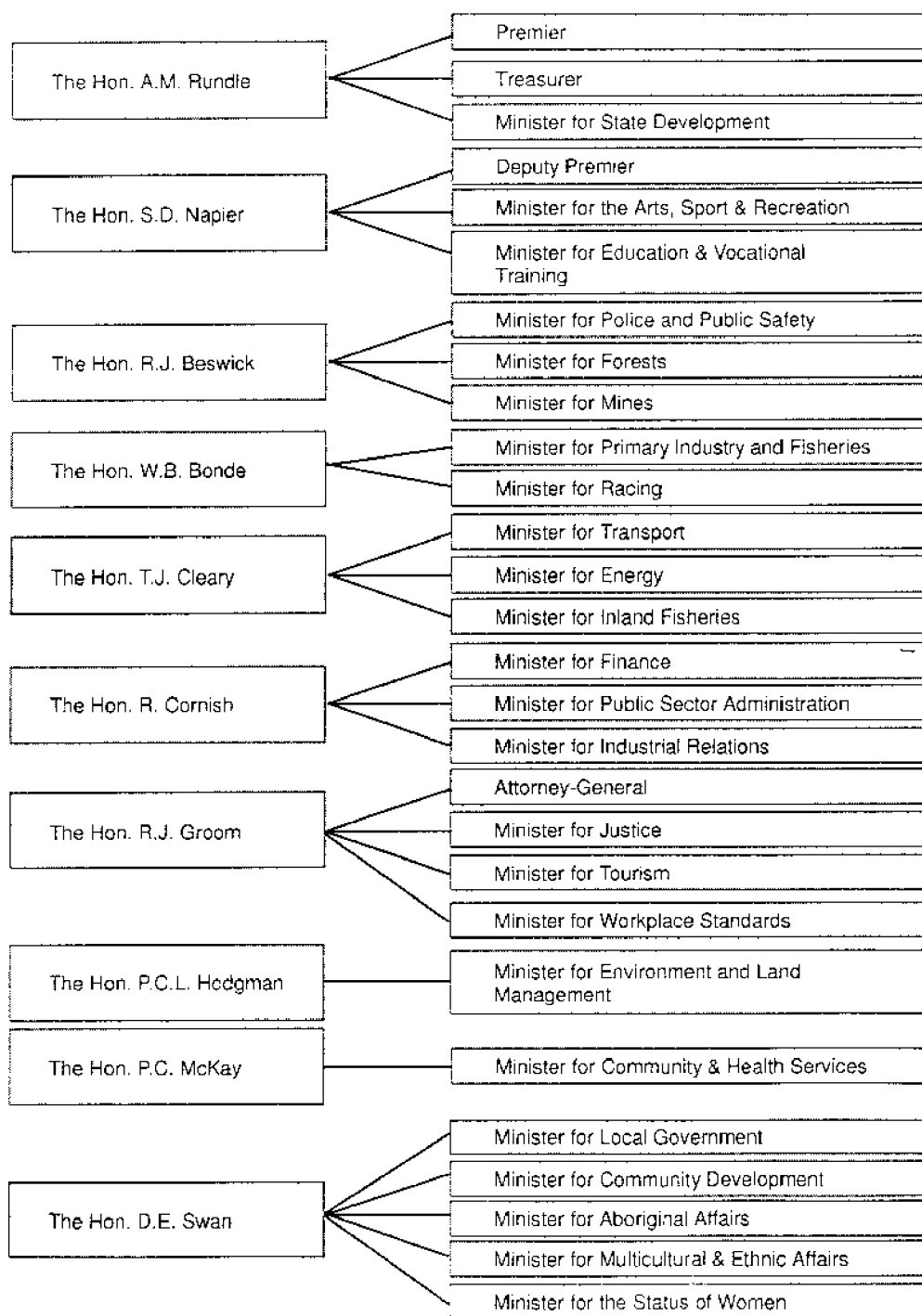
HOUSE OF ASSEMBLY MEMBERS, JULY 1997

	Party affiliation
Bass	
Benneworth, A.J. (c)	Liberal
Beswick, The Hon. R.J.	Liberal
Cox, J.G.	ALP
James, The Hon. G.H.	ALP
Madill, The Hon. F.L. (a)	Liberal
Napier, The Hon. S.D.	Liberal
Patmore, The Hon. P.J.	ALP
Braddon	
Best, B.R.	ALP
Bonde, The Hon. W.B.	Liberal
Cains, C.S.	Liberal
Cornish, The Hon. R.	Liberal
Gard, M.S.	ALP
Hollister, D.L.	Tas. Greens
Rundle, The Hon. A.M.	Liberal
Denison	
Bacon, The Hon. J.A. (b)	ALP
Cheek, R.R.	Liberal
Groom, The Hon. R.J.	Liberal
Hodgman, The Hon. W.M.	Liberal
Jackson, The Hon. J.L.	ALP
Putt, M.A.	Tas. Greens
White, The Hon. J.C.	ALP
Franklin	
Bladel, The Hon. F.M.	ALP
Cleary, The Hon. T.J.	Liberal
Foley, M.B.	Tas. Greens
Goodluck, B.J.	Independent
Hodgman, The Hon. P.C.L.	Liberal
Lennon, P.A.	ALP
Wriedt, P.C.	ALP
Lyons	
Giddings, L.T.	ALP
Hidding, M.T.	Liberal
Llewellyn, The Hon. D. E.	ALP
Mainwaring, R.G.	Liberal
Milne, C.A.	Tas. Greens
Polley, The Hon. M.R.	ALP
Swan, The Hon. D.E.	Liberal

(a) Speaker. (b) Leader of the Opposition. (c) Chairman of Committees.

Source: House of Assembly

MINISTERS AND THEIR PORTFOLIOS, JUNE 1997



Three recounts were conducted during the life of the Parliament after the resignation of the Hon M.A. Aird (Franklin), G.M. Bates (Franklin), and the Hon. R.T. Gray (Lyons) in 1995.

Replacing them were, respectively, J.C. Sheppard, M.B. Foley, and D.E. Swan.

The next Tasmanian election was held on 24 February 1996. For the first time in Australia's history, a State election and Federal election were held virtually simultaneously, with only 1 week separating the 2 polling days. The State election saw the election of 16 Liberal members, 14 Labor members, 4 Tasmanian Greens and 1 Independent member.

Two recounts were conducted following the resignation of the Hon. M.W. Field (Braddon) and the Hon. F.R. Groom (Braddon) in July 1997. Replacing them were, respectively, M.S. Gard, and C.S. Cains.

HOUSE OF ASSEMBLY ELECTIONS 1996: PARTY STRENGTH BY DIVISION BY FIRST PREFERENCES

Name	Liberal	Labor	Tas. Greens	Independent	Total
Bass	4	3	—	—	7
Braddon	4	2	1	—	7
Denison	3	3	1	—	7
Franklin	2	3	1	1	7
Lyons	3	3	1	—	7
Tasmania	16	14	4	1	35

Source: Tasmanian Electoral Office

The Legislative Council

The Legislative Council has the tradition of being a non-party House; in July 1997 the composition of the Council was 14 Independents, 4 Labour Party members and 1 Liberal Party member. The Leader for the Government in the Legislative Council therefore cannot rely upon a vote taken on party lines to ensure the passage of any Government bill. Contrary to the House of Assembly where parties usually dominate to ensure the passage of Government legislation, no such certainty exists with legislation through the Council. As a result it is not unusual for legislation to be amended or even rejected. Up until November 1996, where conflict occurred between the 2 Houses, 'managers' were appointed from each House to meet and attempt to resolve the dispute. Occasionally, even such 'Managers Conferences' failed to

resolve the differences. In November 1996 by resolution of the House of Assembly, 'Managers Conferences' were abolished.

Following conflict between the 2 Houses of Parliament over a money bill during 1924 and 1925, the *Constitutional Amendment Act 1926* was passed. This Act defined the relations between the two Houses especially with regard to the passing of money bills. The main points of the Act are that the Legislative Council:

- retains the right to reject any bill, including a money bill;
- is specifically prevented from amending bills to raise revenue for the ordinary annual services of the Government and bills imposing land and income tax; and
- can suggest to the House of Assembly that amendments be made but the adoption or rejection of such amendments is at the discretion of the Assembly.

Apart from the above specific exception, the Council retains the right to amend money bills, such as those dealing with loan funds. The House of Assembly is given the sole right to initiate bills for the raising of revenue and the imposition of taxes. Finally, the powers of the two Houses are declared equal in all matters except for these specific exceptions.

Legislative Council electoral boundaries

After the conclusion of the 1995 Morling Inquiry into the Tasmanian Parliament, the *Legislative Council Electoral Boundaries Act 1995* was passed by the Parliament. A 3-member Redistribution Committee was formed, comprising a former Judge of the Supreme Court, the Hon. Robert Nettlefold (Chair), the Chief Electoral Officer, Mr David Farrell, and former Secretary of the Department of Justice, Mr Julian Green. The Redistribution Committee published its initial redistribution proposal in November 1995. There were 30 objections and related submissions lodged with the 5-member Redistribution Tribunal. Following an Inquiry which commenced on 22 January 1996, the Tribunal published its redistribution proposal on 7 March 1996 and reasons for its findings. Because the Tribunal was of the opinion that its redistribution proposal was significantly different to the Redistribution Committee's initial proposal, a 7-day objection period was established.

Hearings were conducted in Burnie and Launceston for 3 days in April 1996. There were 24 objections lodged.

On 10 April 1996, the Tribunal published yet another redistribution proposal. This proposal differed from the most previous proposal in that the divisions of Gordon and Russell (excluding Somerset and its hinterland) were merged to form a single division covering the West Coast and the far north-west of Tasmania. Somerset and its hinterland were included in the Burnie division of Emu Bay and all other electoral boundaries in the proposal remained the same as those published on 7 March 1996.

The Tribunal then determined that this further distribution proposal published on 10 April 1996 was not significantly different and the inquiries into objections concluded. The final determination was made on 20 April 1996.

The electoral divisions are Buckingham, Cornwall, Derwent, Emu Bay, Hobart, Huon, Launceston, Leven, Macquarie, Mersey, Monmouth, Murchison, Newdegate, Pembroke, Queenborough, Roland, Rumney, South Esk, and Westmorland.

Legislative Council elections

Members of the Legislative Council are elected by 19 single-member electorates for six-year terms by preferential voting. Elections are held every year to elect 3 members except for every 6th year when 4 members are elected.

As for the House of Assembly, candidates' names are rotated on the ballot papers. To be elected, a candidate must obtain 50% of the valid votes plus one, including preferences. A valid vote must show at least 3 preferences.

During 1995–97, there were 10 periodic Legislative Council elections and 2 Legislative Council by-elections held. There were 5 sitting members returned and 1 sitting member defeated. Six members retired.

The 1997 Legislative Council elections were the first elections to be held on the new divisional boundaries. For the first time in the Legislative Council, a sitting member retired from his seat to contest a new division, that of Mersey.

LEGISLATIVE COUNCIL MEMBERS, JULY 1997

Electoral division	Member	Party	Term expires
Buckingham	Crear, The Hon. D.M.	ALP	1998
Cornwall	Bailey, The Hon. R.F. (a)	Independent	2002
Derwent	Aird, The Hon. M.A.	ALP	2003
Emu Bay	Hiscutt, The Hon. D.M.	Independent	2001
Hobart	Parkinson, The Hon. D.J.	ALP	2000
Huon	Harriss, The Hon. A.P.	Independent	2002
Launceston	Wing, The Hon. D.G.	Independent	2000
Leven	Smith, The Hon. S.L.	Independent	2002
Macquarie	Shaw, The Hon. G.A.	Independent	1998
Mersey	Squibb, The Hon. G.B.	Independent	2003
Monmouth	Wilson, The Hon. S.J.	Independent	1999
Murchison (e)	Schulze, The Hon. P.R. &	Independent	2000
Murchison (e)	Fletcher, The Hon. A.W. (c)	Independent	1999
Newdegate	Ginn, The Hon. R.W. (b)	Independent	1999
Pembroke	McKay, The Hon. P.C. (d)	Liberal	2001
Queenborough	Wilkinson, The Hon. J.S.	Independent	2001
Roland	Loone, The Hon. J.A.	Independent	2001
Rumney	Vacant	n.a.	2000
South Esk	Rattray, The Hon. C.L.	Independent	1998
Westmorland	Smith, The Hon. S.J.	ALP	2003

(a) President. (b) Deputy President and Chairman of Committees. (c) Leader for the Government. (d) Deputy Leader for the Government. (e) See transitional arrangements for Members of the Council Constitution (Legislative Council) Special Provisions (No.2) 1997.

Source: Legislative Council

The Nixon Report: Tasmania Into the 21st Century

During the campaign for the 1996 Federal election, the Coalition unveiled a number of specific policies relating to Tasmania. One of these was the promise to establish a committee of inquiry, funded jointly by the Commonwealth and Tasmanian State governments, which would conduct a detailed investigation of the Tasmanian economy and advise on policies to improve its performance. This initiative was motivated by the chronically below-average performance of the Tasmanian economy, and the perception that this had become more pronounced during the 1990s.

In October 1996, the Hon. Peter Nixon, AO, a member of Federal Parliament from 1961 to 1983 and Minister under the Fraser Government, was appointed to chair this inquiry, known officially as the *Commonwealth-State Inquiry into the Tasmanian Economy*.

The principal task undertaken by the Inquiry was the comprehensive analysis of the Tasmanian economy and the legislative and executive environment that governs its operation. The analysis was performed on the basis of information collected from 5 main sources:

- Written submissions received from interested parties;
- Face-to-face meetings with representatives of various organisations;
- Public forums held in each region of Tasmania;
- Past reports undertaken into aspects of the Tasmanian economy; and
- Official statistical information, both published and unpublished.

The Inquiry's findings were made public on July 30 1997, as *The Nixon Report: Tasmania Into the 21st Century*.

In summary, the Nixon Report determined that Tasmania's poor economic performance was the result of critical problems in 5 main areas. These were:

- *Governance:*

The structure of government in Tasmania compromises the strong and effective leadership of the State and impedes the development of policies to benefit the long-term development of the State. Significant problems were identified in both the structure and operations of Parliament, Cabinet, the bureaucracy and local government.

- *Government finances*

The existence of a very large government debt, primarily accrued during the 1980s, places severe constraints on the spending and taxation options of the State Government. Because of this, the debt exacerbates Tasmania's weak economic performance and prevents the State Government taking effective action to assist economic development.

- *Education and training:*

Tasmanians have lower skill levels than the national average, and the State has a substantially lower proportion of students continuing education through to Year 12. School leavers are not perceived to be job-ready, and existing training regimes do not meet the needs of Tasmanian businesses.

continued on next page

- *Industry development / business environment:*

Industry development policies are poorly focused and lack a strategic direction. The business environment in Tasmania is unattractive to investors: characterised by severe taxation and other on-costs, unavailability of finance, inefficient ports and archaic transport regulations.

- *Planning processes:*

The regulations regarding planning are complex and are not well understood by either developers or those administering the system. There is an excess of independent bodies, that are not accountable for their actions, involved with the planning process.

The Nixon Report detailed 122 separate recommendations designed both to overcome the identified problems and to build upon Tasmania's advantages and opportunities including:

Governance

- Both Houses of Parliament to be dissolved, and a new single chamber to be instituted, comprising 27 members elected from 9 three-member electorates;
- The Hare-Clark voting procedures to be retained;
- Parliament's operations to be overseen by a Public Bodies and Accounts Committee (PBAC), modelled along the lines of the Federal PBAC;
- Cabinet to be reduced from 10 to 7 (including the Premier), each responsible for one of the 7 restructured government departments (reduced from the current 13);
- Department heads to be directly responsible to the Minister through performance agreements which contain both positive and negative incentives;
- The roles of local and State government to be clearly defined, with effective delegation of identified responsibilities;
- There should be a maximum of 8 local government areas on mainland Tasmania (compared to the present 29), with the Bass Strait islands administered separately and receiving greater support from the State Government.

Government finances

- Tasmania should aim to have zero net public sector debt by the year 2000. In particular, the liabilities relating to the core operations of government (or general government) should be totally eliminated;
- This can only be achieved by the sale of public assets. Primarily, the Hydro- Electric Corporation (HEC) should be disaggregated into separate business units and totally privatised;
- Following this, budget deficits are to be outlawed, and procedures implemented which prevent the State Government accruing debt over successive years;
- The savings made from debt elimination, in the form of reduced interest payments, are to be used to reduce both payroll and land tax, and supplement infrastructure outlays and investment in business development;
- Further initiatives to assist economic growth to be funded by revenues from the sale of a number of other government businesses, including the port authorities, TT-line and the Motor Accident Insurance Board (MAIB).

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Education and training

- Support was given to the education-related initiatives detailed in the Government's *Directions Statement*, which aim to ensure that all students achieve core literacy and numeracy competencies;
- The Government to remove the structural barriers which discourage students from regional areas from continuing schooling beyond Year 10;
- Various reforms to the operation and organisation of TAFE, including a greater focus on the current and emerging skill needs of local industry, and a unified State-wide structure with clear accountability and responsibility of TAFE directors to the Minister.

Industry development policy

- State Government should form the Department of State Development and Infrastructure, which should be allocated in each budget a fund for industry development lending. Lending from this fund would be the sole responsibility of the Tasmania—Development and Resources (TDR) Board, with the Government having no capability to direct the Board on any individual funding proposal;
- State Government to provide seed funding for the establishment of one or more pooled development funds in Tasmania;
- Adoption of reforms by both the State and Commonwealth governments to improve the competitiveness and efficiency of waterfront and transport operations.

Planning

- Overall streamlining of the planning regulation system, incorporating the following: development of an over-arching strategic direction for the planning process; rationalisation and standardisation of the proliferation of planning schemes; restriction of the scope for individuals to appeal against particular planning permits; and compulsory accreditation of those administering the planning system.

Energy

- Prior to privatisation, the HEC should be split into 5 competing generation enterprises (based on existing catchment areas), 2 competing franchised distribution operations (along north/south lines) and 1 transmission system enterprise;
- The privatised retailers/distributors should continue to be regulated, and this overseen by the Government Prices Oversight Commission (GPOC);
- State Government should facilitate the development of Basslink, to integrate Tasmania's energy market with the mainland electricity grid and assist the move to a fully competitive energy market;
- Outstanding Gordon-Below-Franklin compensation funds owed to Tasmania by the Commonwealth should be used to fund the exploration of natural gas from the Yolla gas field, together with the establishment of a natural gas market and a capacity to generate electricity from natural gas.

Other sector-specific

- A range of recommendations were also made for the reform and enhancement of the following sectors: forestry, agriculture, fisheries and also marine farming, tourism and other service industries, and leisure and entertainment.

Local Government

Local government is a sphere of government providing a range of services generally suited to the community. It operates alongside other spheres of government, although local government is not recognised under the Commonwealth Constitution. However, it has very important relationships with the Commonwealth, in particular through financial assistance grants and in contributing to the implementation of national programs.

The functions of councils in Tasmania are prescribed under Section 20 of the *Local Government Act 1993*. Services they provide include garbage and waste disposal facilities, roads and footpaths, drainage, water supply and sewerage, health inspection, cemeteries, parks and recreation facilities, gardens, and a range of community services.

The Local Government Association of Tasmania represents the body corporate of the 29 councils. The Association's role is to protect the rights, interests and privileges of councils in addition to coordinating inter-government relations between the Commonwealth and State Governments and councils. It is also a convenient vehicle for other governments to seek representative local government policy positions.

History of local government

In Tasmania during the early to mid 1800s, 2 councils (Hobart and Launceston) were established and by 1863, 16 rural municipalities co-existed with police districts. These were replaced in 1865 by 30 municipalities and in the years following, by a number of boards and trusts providing local government services. By 1906, local government services were provided through 149 local authorities.

As a result of the Local Government Act in 1906, all local authorities, excluding Hobart and Launceston, were abolished and replaced by 47 municipalities. These 49 municipal and city areas remained unaltered until 1993 when amalgamations reduced the number of councils to 29.

A new Local Government Act was established in 1993 which provided for a high level of 'general competence power'. This has changed the focus of local government accountability from the State to the communities that they serve. The Act enables local government to take whatever

measures are needed to give effect to their decisions, rather than being restricted to exercise only those few powers which are actually listed, as was the case with the former Local Government Act.

Local government's role in the economy

The largest sources of local government revenue are rates and government grants. Other major sources of revenue include regulatory services, such as parking and licence fees, water and sewerage services, and fees and charges. Local government expenditure is spread across housing and community amenities, transport and communication, recreation, culture and general public services.

Total local government expenditure was \$275 million in 1995-96 which was equivalent to 2.6% of Tasmanian Gross State Product. Local government employs approximately 3200 people.

The changing environment of local government

Two important reviews undertaken in 1993 were the Report on the Independent Commission to Review Public Sector Finances (*McCarrey Report, 1993*) and the Report of the Independent Committee of Inquiry into National Competition Policy (*Hilmer Report, 1993*). These have resulted in the introduction of initiatives and reforms which are gradually being implemented throughout State and local government in Tasmania and more widely throughout Australia.

A further consideration for all government, arising largely from the Hilmer Report, was the development at the national and State level of National Competition Policy.

Following the signing in 1995 of inter-governmental agreements between the Commonwealth, State and Territory governments, local government and the Tasmanian State Government cooperated to implement National Competition Policy principles.

The *Local Government Act 1993* has been in place for over 3 years and is subject to a review foreshadowed by the Minister for Local Government when the Act passed through Parliament. The review is of the whole Act and includes an examination of such matters as:

- responsible Government;
- the application of national competition policy;
- the operation of Councils and their revenue raising powers;
- the conduct of elections; and
- the role of Councils in the community.

A draft Public Health Bill and draft Food Bill have been prepared and circulated for public consultation. These bills seek to modernise the legislative and policy environments which apply to public health and the manufacture, preparation and distribution of food in the State.

MAYORS, JUNE 1997

Council	Mayor
Break O'Day	Cr Robert Legge
Brighton	Cr Tony Foster
Burnie City	Ald. Steven Kons
Central Coast	Cr Sue Smith
Central Highlands	Cr Geoff Ashton-Jones
Circular Head	Cr Ross Hine
Clarence City	Ald. Cathy Edwards
Derwent Valley	Vacant
Devonport City	Ald. Geoff Squibb, MLC
Dorset	Cr Peter Partridge
Flinders	Cr Lynn Mason
George Town	Cr Lawrence Archer
Glamorgan/Spring Bay	Cr E.A. (Bill) Bailey
Glenorchy City	Ald. Terry Martin
Hobart City	Ald. John Freeman
Huon Valley	Cr Greg Norris
Kentish	Cr Lawrence Connors
Kingborough	Cr Reg S. Gee
King Island	Cr Vernon Philbey
Latrobe	Cr Bert Campbell
Launceston City	Ald. John Lees
Meander Valley	Cr Greg Hall
Northern Midlands	Cr Kenneth von Bibra
Sorell	Cr Carmel Torenus
Southern Midlands	Cr Colin Howlett
Tasman	Cr Neil Noye
Waratah/Wynyard	Cr Cyril Dixon
West Coast	Cr Murray Waller
West Tamar	Cr Trevor Roach

Source: Local Government Association of Tasmania

Directions Statement

In April 1997 the Premier, the Hon. A.M. Rundle, MHA, released his Government's *Directions Statement* for Tasmania with reform to local government a major issue. It outlined the following major reforms for local government in Tasmania:

- *review local government boundaries*
The aim is to substantially reduce the number of local government bodies in Tasmania, and create a greater Hobart and greater Launceston Council;
- *reform State-local government financial relationships*
This will give effect to the main recommendations of the Roles and Functions Review Committee and how they relate to the financial flows between the spheres of Government; and
- *develop a policy framework for councils of rate capping and/or rate reductions*
This will give effect to the Government desire for part of the benefits of local government restructuring to be passed on in the form of lower rates and charges.

The review of council boundaries is being conducted by the Local Government Board — (appointed in May 1997), which is required to have its recommendations to the State Government by December 1997.

Local government has expressed its concerns over the proposed reform, particularly the review of boundaries and the introduction of rate capping as it is anticipated that there could be a loss of hundreds of jobs, adversely affecting current unemployment levels.

FURTHER READING

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Acknowledgments

Linda Manaena, Local Government Association of Tasmania

CHAPTER 5

Law and police services

Photo: Adam Czapacki



A helicopter is used extensively for police search and rescue operations as well as medivacs. In 1995–96, the police helicopter clocked up approximately 138 hours of flying time.

Tasmania's laws, legal system and institutions are derived from those of Britain. For a time English law applied directly to the colony. By the time of Federation in 1901, all Australian States had a legal system firmly based on the Common Law of England. With Federation, Tasmanians also became subject to Commonwealth laws enforced by administratively separate institutions.

The legal system is based on the political and philosophical ideal called the rule of law. This means that a person's relations with other people and the State are governed by law, not by force or arbitrary power.

The Parliament enacts the law and officers who administer the law are responsible, through Parliament, to the people.

Another principle of the rule of law is that no person should be deprived of his life, liberty or

property, except by fair trial in an open court presided over by impartial judges. In law, all people are equal.

Australia has two sources of law: case law and legislation or statute law. Case law, also called common law, consists of rules resulting from the decisions of the courts. When a case comes before the courts, the judges generally apply the law as laid down or interpreted by earlier courts that decided similar cases.

The Commonwealth and State Parliaments make Australia's laws within powers set out in the Constitution. Often legislation gives power to the Governor-General, Governor or a minister to make rules of law. These laws, called subordinate or delegated legislation, are an important part of the law. State and Commonwealth police are charged with enforcing the law. The police have broad powers to investigate breaches of the law and to arrest

people suspected of crimes. It is usually the police who institute criminal proceedings. Each State as well as the Commonwealth has its own police force.

After formal charges are laid, guilt or innocence is determined through trial in a court. In Tasmania this is either in the Supreme Court or, for less serious matters, in the Magistrate's Court. Each court has jurisdiction in civil and criminal matters. For civil trials and criminal matters in the Magistrate's Court, the issue is generally determined by a magistrate. In the Supreme Court, questions of guilt in criminal matters are decided by a jury.

Since 1934 the Tasmanian jury system has embodied the principle of allowing majority decisions in certain circumstances, instead of requiring the unanimous decisions once characteristic of juries in England. In criminal cases, a 10-2 decision is accepted instead of 12-0 after defined periods of deliberation. In the case of murder, 12-0 is necessary to convict. A 10-2 decision can bring in a verdict of not guilty, or not guilty of murder but guilty of a lesser crime.

Civil litigants may elect to have a seven-member jury. If after three hours deliberation the jury cannot reach a 7-0 decision, a 5-2 decision is accepted. If the minimum 5-2 decision cannot be reached after 4 hours, the jury may be discharged.

At present, all people below the age of 65 listed on the electoral roll can be called for service as jurors. Persons are disqualified from jury service if they have been convicted of a serious offence; are bound by a recognisance, for example a good behaviour bond; are subject to a community service order; or are on probation. Within limits prescribed in legislation, the presiding officer of the court imposes a sentence of imprisonment, a fine, probation, or a community service order. A term of imprisonment may be suspended on condition of good behaviour.

Police

The State Government agency Tasmania Police is directed by a Police Commissioner, who is answerable to the Minister for Police and Public Safety. At 30 June 1996 Tasmania's police force consisted of 1049 officers, including 12 part-time officers. A further 389 persons were employed in the State Service in a number of specialist and administrative areas providing support to police. Of these, 25 persons are employed by the State Emergency Service which is responsible for preparing Tasmania in the event of an emergency or act of civil aggression (civil defence).

The aim of Tasmania Police is to maintain law and order, protect life and property, enhance community safety and reduce the incidence and fear of crime.

Recent changes

Over 1996 and 1997, Tasmania Police implemented a number of modernising reforms. These provide a more effective and efficient service in line with the outcomes demanded by Government, and its own corporate objectives.

Legislation

In 1997 legislation was passed in relation to crime, police processes, and judicial processes. Police now have less paperwork to undertake but more powers. The judiciary will have tougher sentencing options such as mandatory compensation orders against burglars, thieves and vandals. There will also be restriction orders to stop repeat offenders entering areas such as malls.

The *Criminal Law (Detention and Interrogation) Act 1995* sets out what is considered appropriate police behaviour during the arrest or questioning of suspects. The Act, as well as the amendments to the *Justices Act 1959* and the *Bail Act 1994*, increases police powers while, at the same time, makes police more accountable.

In the past, police were unable to fingerprint young offenders charged with an offence. However, with the new legislation, this has changed. The legislation allows police to fingerprint juveniles if they have their permission and the permission of the legal parent or guardian.

Police structure

A number of structural changes within Tasmania Police gave a more flexible approach to crime solving.

For example, the Criminal Investigation Branches (CIBs) have restructured and have re-evaluated their role. The number of Detective-inspectors in Tasmania doubled from 4 to 8, allowing Inspectors to spend less time on administrative tasks and more on training and crime prevention.

Also, there is a move to hand-pick police officers and take them off duties and involve them in the investigation of particular crimes. In this way, staff resources can be focused to maximise individuals' skills.

Information technology

During 1996, a number of computer-based systems were installed: an intelligence/statistical analysis tool to assist with crime analysis, an intelligence dissemination system for deployment in major operations, and an on-line information system replacing the paper-based systems. Other existing computer-based systems received major upgrades, to improve speed and enhance operator use.

About 100 computers have been installed at police stations around Tasmania, giving better access to national crime databases and Department of Transport records.

Police also have better access to other information such as prior convictions and notes about convicted offenders such as whether they are known to carry a gun.

Major operational incidents

For the year ending June 1996, there were 9 major operational incidents with which Tasmania Police were involved:

- 2 murder investigations;
- 3 separate tragedies in the Tasmanian wilderness, resulting in the death of 5 people, including acclaimed wilderness photographer Peter Dombrovskis;
- 2 separate incidents involving the wounding of 5 police officers;
- Tasmania's worst marine ecological disaster at the mouth of the Tamar River when the *Iron Baron* hit Hebe Reef; and
- the Port Arthur tragedy.

Port Arthur tragedy

On Sunday 28 April 1996, 35 persons were killed and 21 persons were injured when a lone gunman fired at members of the public at Port Arthur, on the Tasman Peninsula.

The immediate response to the tragedy involved 300 employees of the Department of Police and Public Safety who worked non-stop for 48 hours. Specialist police officers from Victoria and NSW also assisted with recovery management and coordination of logistical support. In total, over 685 emergency service personnel were involved with the Port Arthur tragedy.

On 7 November 1996, Martin Bryant pleaded guilty to 72 charges relating to the incident.

National gun laws

Following the events at Port Arthur, Commonwealth, State and Territory governments agreed to implement uniform gun laws which would ban automatic and semi-automatic weapons.

Firearm deaths

During the period 1980 to 1995, the standardised firearm death rate per 100,000 was higher in Tasmania than in Australia as a whole. Of all States and Territories, Tasmanian rates were second highest after the Northern Territory, during the same period.

Of all firearm-related deaths in Tasmania, by far the greatest number are attributable to suicides. During 1992-94, about 84% of all firearm-related deaths in Tasmania were attributed to suicide, 7% to homicides, 6% were accidental and 3% were undetermined.

FIREARM DEATH RATES (a)

Three year averages	Tasmania rate	Australia rate
1980-82	7.6	4.7
1983-85	8.3	4.5
1986-88	8.0	4.3
1989-91	8.1	3.5
1992-94	7.6	3.1
1995 calendar year (b)	3.6	2.6

(a) Standardised rates per 100,000 of the mid-year population (average rate for a three-year period, except for 1995). The Port Arthur homicides are not included in this data. (b) Data for single year. Data for other periods are three-year averages.

Source: ABS catalogue no. 4397.0

Firearms Act 1996

Inspector S. T. Williams, Department of Police and Public Safety

The *Firearms Act 1996* provides for the regulation of the possession, use, registration and licensing of firearms in Tasmania. The move towards national minimum standards on the ownership of firearms was adopted at the Australasian Police Ministers' Council Special Firearms meeting on 10 May 1997 where firearms laws were discussed in the wake of the events at Port Arthur. The *Firearms Act 1996* has replaced the *Guns Act 1991*. A major change was the prohibition of the following types of firearms:

- machine and sub-machine guns;
- self-loading rim-fire rifles;
- self-loading centre-fire rifles;
- self-loading shotguns; and
- pump action shotguns.

To possess and use a firearm, a person is required to hold a firearms licence. To be granted a licence a person must be over 18 years of age, be a fit and proper person, successfully complete an approved firearms safety course, and meet certain safety and storage requirements. A person must also have a satisfactory reason for wanting to have a firearm.

A new requirement of the *Firearms Act 1996* is that a person must register every firearm in their possession. Under the *Guns Act 1991*, only pistols were required to be registered. A person is required to make each firearm available for inspection before it can be registered. If a person sells a firearm or it is lost or stolen, that person must notify the Commissioner within 7 days.

For people wanting to surrender their firearms, there are 33 locations around Tasmania where people can do so. All surrendered firearms are transported to Hobart and under the supervision of the Auditor-General, are guillotined into 3 pieces and melted at a local foundry. The metal is scrap only because different metals are present, such as gold, lead, iron and silver.

The Act provides tough penalties for the contravention of certain provisions. For example, the penalty for contravening the general safekeeping requirements of the Act in the case of non-prohibited firearms is a fine not exceeding 20 penalty units or imprisonment for a term not exceeding 12 months or both. Similar penalties apply throughout the Act.

FIREARMS REGISTRY STATISTICS, TASMANIA, AS AT 19 JUNE 1997

	no.
Prohibited firearms surrendered throughout the State	27 123
Non-prohibited firearms surrendered	2 873
Compensation paid for prohibited firearms (\$)	13 223 552
Licence applications processed	42 335
Licence applications approved	26 223
Firearms inspected for registration	72 218

Source: Department of Police and Public Safety

FIREARM-RELATED DEATHS (a), TASMANIA

Three year averages	Accidental no.	Suicide no.	Homicide no.	Legal intervention no.	Undetermined no.	Total no.
1980-82	7	76	10	0	1	94
1983-85	10	80	15	0	0	105
1986-88	3	99	4	0	1	107
1989-91	8	92	9	1	3	113
1992-94	7	91	8	0	3	109
1995 calendar year (b)	1	17	0	0	0	18

(a) Firearm-related deaths by State of registration. The Port Arthur homicides are not included in this data. (b) Data for single year. Data for other periods are three-year totals.

Source: unpublished ABS data

Crime

Offences against the person

In Tasmania, during the past 5 years to June 1996, the rate of recorded offences against the person (offences such as assault, homicide, crimes of indecency and other like offences) rose steadily; from 366 offences recorded per 100,000 population in 1991-92 to 562 offences recorded per 100,000 population in 1995-96.

Offences in 1995-96 increased by over 9% compared with the previous year although the Port Arthur incident in April 1996 contributed almost one-third of this increase. Assault accounted for 73.1% of all the offences against the person recorded in 1995-96.

Although the number of sexual assaults increased by 35 offences in 1995-96 over the previous year, the rate decreased in the 5 years to June 1996.

The number of robbery offences increased from 121 offences in 1994-95 to 133 offences in

1995-96. Unarmed robbery accounted for the increase. The number of armed robberies decreased during this period, from 46 offences to 42 offences.

Of the 40 murders recorded in 1995-96, 35 were committed at Port Arthur on 28 April 1996 while in the previous year, 5 murders were recorded. Of the 31 attempted murders recorded in 1995-96, 19 were committed at Port Arthur while 5 were recorded in the previous year.

Offences against property

For offences against property, the rate increased in the 5 years to June 1996; from 8039 offences per 100,000 population in 1991-92 to 10,088 offences per 100,000 population in 1995-96. However, the rate of growth slowed. Of all offences against property recorded in 1995-96, stealing (with burglary) accounted for 27.7% of all offences, burglary of buildings accounted for 25.3%, and stealing (not connected with burglary) accounted for 15.4%. Damage to property accounted for 12.4% and burglary of

RECORDED OFFENCE RATES, TASMANIA (a)

	1991-92 rate	1995-96 rate
Offences against the person	366	562
Offences against property	8 039	10 088
Fraud and similar offences	297	378
Assault (excl. sexual assault/assault police)	243	411
Sexual assault	45	41
Robbery (armed/unarmed)	21	28
Murder (b)	1	8
Burglary — buildings	2 045	2 550
Burglary — motor vehicles/other conveyances	597	919
Stealing — general (c)	1 524	1 551
Stealing — motor vehicles	270	548
Damage to Property	720	1 247

(a) Rates per 100,000 of the population. (b) 35 Murders out of a total of 40 recorded in 1995-96 were committed at Port Arthur on 28 April 1996. (c) Stealing not connected with burglary and excluding shoplifting and stealing motor vehicles.

Source: Department of Police and Public Safety Annual Report 1995-96

motor vehicles/other conveyances accounted for 9.1% of all property-related offences.

Of all the recorded burglaries of buildings, 58.9% occurred in residential buildings, 7.4% occurred in community buildings and the remainder (33.7%) occurred in other locations such as retail premises.

RECORDED OFFENCES, TASMANIA

	1994-95 no.	1995-96 no.
Offences against the person (a)	2 432	2 661
Offences against property	46 261	47 737
Fraud and similar offences	1 977	1 791
Other offences	203	141
Total	50 873	52 330

(a) An incident at Port Arthur in April 1996 contributed to the increased number of offences against the person in 1995-96. During the incident, 71 offences were recorded: Murder 35, Attempted Murder 19, Assault Grievous Bodily Harm 2, Aggravated Assault 8, Wounding 7.

Source: Department of Police and Public Safety Annual Report 1995-96

Victims of crime

Victims of crime are able to apply for compensation for injuries suffered as a result of criminal acts. The Master of the Supreme Court is responsible for determining the level of compensation, if any, to be granted to applicants. Community Corrections area within the Department of Justice supervises and supports 3 regional Victims of Crime Response and Referral Services.

The police are the major source of referrals to the Victims of Crime Services, followed by self-referrals.

In 1995-96, the 3 services provided advice to 1153 victims of crime, an increase of 44% over the previous year. 72% of referrals related to crimes against the person while in 54% of these cases, the offender was known to the victim prior to the offence. 71% of people using the service were female. 68% of the clients were aged less than 45 years.

Drug law enforcement

During 1995-96 the number of drug charges increased relative to previous years. Cannabis remained the most widely used illicit drug, while amphetamines were the most commonly used drug of injection. There was an increase in the availability and use of LSD, particularly in the southern part of the State.

In the past, deficiencies in the *Poisons Act* often prevented Drug Bureau staff from prosecuting drug traffickers for more serious offences other than 'use and possession'. For this reason, in 1995-96, only 10% of charges related to the supply or trafficking in drugs. In 1997, legislation was passed which resulted in changes to the *Poisons Act* intended to close loopholes which developed following decisions by judges in the Supreme Court of Tasmania.

Road traffic control

Traffic branches are located at Hobart, Bellerive, Launceston, Devonport and Burnie. General uniform police also provide additional personnel for major road safety campaigns.

The Traffic Liaison Unit coordinates specific road safety programs and also manages traffic infringement and speed camera adjudication.

The role of traffic duty police is to:

- minimise the number and severity of road accidents;
- improve behaviour of road users;
- promote safety for road users;
- attend vehicle accidents; and
- respond to traffic offences.

The road toll

In 1995-96, the number of fatalities in Tasmania rose by 6.6% over the previous year. However, the number of people who were seriously injured decreased. The number of accidents in which people were seriously injured also decreased.

The role of alcohol, as a contributing factor in these crashes, has been decreasing since the introduction (in December 1991) of greater financial penalties. Speed, however, was still a major contributing factor in accidents.

ROAD ACCIDENT FATALITIES, TASMANIA

	1994-95 no.	1995-96 no.
Drivers	29	39
Passengers	14	12
Motorcyclists	5	3
Cyclists	3	1
Pedestrians	10	9
Pillion passengers	0	1
Total	61	65

Source: Department of Transport

**SERIOUS INJURIES AND ROAD ACCIDENTS,
TASMANIA**

	1994-95 no.	1995-96 no.
Serious injuries (persons)	518	493
Serious injury accidents	396	385

Source: Department of Transport

Speed detection devices

Speed cameras were introduced into Tasmania on 18 March 1993 as a road safety measure. Research has shown that excessive speed (for particular conditions) is a major factor in serious traffic crashes. For example, approximately 40% of road fatalities occur in accidents where excessive speed was judged to be a causal factor. It is estimated that each road death costs the State between \$650,000 and \$750,000 while each serious injury can cost the State up to \$1 million.

SPEED CAMERA OPERATIONS, TASMANIA

	1994-95 no.	1995-96 no.
Vehicles checked	4 279 653	3 593 920
Photographs taken	61 205	51 745
Notices issued	44 108	38 381
Notices paid	35 286	30 705
Kerbside hours	8 706	9 361
% Speeding vehicles	1.06	1.07
Fines (\$)	3 982 000	3 378 000

Source: Department of Police and Public Safety Annual Report 1995-96

Random Breath Testing

In 1995-96, in Tasmania, 191,080 drivers were breath tested. Of these, 1896 continued on to the breath analysis process, with 1775 being charged. Most of these had a blood alcohol reading of greater than 0.05%.

Community policing

Tasmania Police is moving towards greater community involvement, with the police and the community working together to prevent and solve crime. A major focus has been to support and expand existing community-based programs.

Neighbourhood Watch

The Neighbourhood Watch scheme involves community-based, crime prevention programs within defined areas.

Tasmania's involvement in the Neighbourhood Watch scheme began in 1986, with Watch areas initially being established in Lindisfarne, Geilston

Bay and Flagstaff Gully. At 30 June 1994 there were 116 Neighbourhood Watch areas State-wide, growing to 158 by mid-1996, with each area covering around 600 homes.

Neighbourhood Watch objectives are to: minimise preventable crime; maximise the reporting of crime and suspicious behaviour; increase personal and property security through education and the marking of valuables for easy identification; reduce the fear of criminal activity; highlight the scheme through erecting signs; and improve community awareness and interaction.

Crime Stoppers

Crime Stoppers is a program based on the premise that for most crimes, a person other than the offender can provide information about each crime. The program relies on the cooperation between police, the general community and the media to provide a flow of information about crimes as a result of publicity.

The program was introduced to Tasmania in February 1994 and operates through a weekly crime segment shown on the Southern Cross Television Station. Weekly target crimes are featured, complemented by daily newspaper and radio station coverage. The crime scenes are shown, and police request information on crimes that have been difficult to solve.

The Crime Stoppers telephone line guarantees anonymity of the caller; informants are identified by the use of an alphanumeric code given at the time of calling.

Informants may be entitled to a reward of up to, and in special circumstances over, \$1,000 for information that results in an arrest or charges.

Other community-based initiatives

Community policing has been central to Tasmania Police's Modernisation Program. Initiatives which are being pursued by Tasmania Police include Bush Watch; Fisherman's Watch; Taxi Watch; Safety House (which give children a safe refuge in the event of stress); the Adopt-a-Cop Program (a program designed to bridge the gap between police and the community by encouraging children to regard police as their friends); mobile police offices; bicycle patrols; the Drug Education Program; Police and Citizen Youth Clubs; Citizen and Police Liaison Groups; and Business Watch.

Speed detection devices

Inspector N. B. Stephens, Department of Police and Public Safety

Speed has long been recognised as a major contributing factor in fatal and serious traffic accidents on Tasmanian roads. Between 1970 and 1996, 2430 people lost their lives on our roads.

PERSONS KILLED ON TASMANIAN ROADS

Year	Persons killed no.
1970	118
1975	122
1980	100
1985	78
1990	71
1995	56
1996	64

When first introduced in March 1993, speed cameras showed the percentage of speeding motorists to be as high as 3%. For the first 4 months of 1997, this figure has reduced to less than 1%.

In its effort to further reduce the effects of road trauma and the percentage of speeding motorists, Tasmania Police has utilised a number of speed enforcement measuring devices including:

- 32 hand-held radar devices;
- 5 mobile radar devices; and
- 5 radar speed camera devices.

These devices are used by Tasmania Police throughout the State, including remote country Police Stations and the Police Traffic Branches.

To supplement these radar devices, Tasmania Police has also introduced laser speed measuring devices, both in hand-held and speed camera format.

The advantage of laser over radar is that these devices can be used in high traffic density areas where radars could not previously be used.

With a laser device, it is possible to accurately identify a speeding vehicle, even if it is surrounded by other vehicles. For example, a speeding vehicle can be detected during peak hour traffic on the Tasman Bridge, Hobart. The following laser speed measuring devices are now in use on Tasmanian roads:

- 17 hand-held laser devices;
- 7 laser speed camera devices; and
- 2 fixed-site laser speed camera devices.

Laser speed cameras also provide new technology regarding the recording/storage of infringements. Radar speed cameras record images to a 35mm photographic film, whereas the laser speed cameras record infringements directly, in a digitised format, to a computer disk. This system provides maximum security, ease of processing, and image retrieval.

Laser speed cameras have also provided the options of being able to be used in a manned, un-manned or at a fixed site location. The un-manned and fixed site operations enable extended operational hours without impacting on personnel numbers. A fixed-site laser camera can operate 24 hours a day, 7 days a week, with the only operator involvement being the initial set-up and eventual image retrieval.

Speed measuring devices have proven themselves to be an effective tool in the reduction of the number of accidents and speeding motorists.

The introduction of surveillance cameras in the Central Business Districts of Hobart and Launceston as well as police booths and portable stations in identified problem areas has resulted in a marked reduction in street offences and damage to property. Licensed premises are also more closely patrolled by the Licensing Task Force and uniformed police in an attempt to reduce the problems associated with public drunkenness and the sale of liquor to underage drinkers.

Other initiatives that police employ to reduce the incidence and fear of crime in the community include:

- task forces to supplement divisional police during problem times;
- civilianisation of some duties to free more officers for operational duties; and
- involvement of police from non-operational areas in daily foot patrols of inner city areas.

Drug education

The Tasmania Police Community Drug Education Program is a nationally-funded initiative which has enabled a team of police officers to be trained to deliver a program of drug education sessions to community groups and grades 9–12 students. The program is based on aspects of the law with a focus on harm minimisation and it focuses on any drugs that are appropriate to the target group. They include alcohol, tobacco, pharmaceuticals and illicit drugs.

Domestic violence

Domestic violence covers a wide range of criminal offences such as physical assault, sexual assault and murder. These offences are usually accompanied by psychological, emotional, social, financial and other forms of abuse.

Tasmania Police attends about 3,800 domestic violence incidents each year. The majority of domestic violence incidents attended by police involve mediation or arrest and subsequent prosecution.

Since the 1980s, several acts of legislation have been amended and enacted to strengthen police powers and provide for the protection of victims of domestic violence. In 1992 the *Criminal Code Act 1924*, *Police Offences Act 1935* and the *Justices Act 1959* were amended and updated.

The main effects of these legislative changes were to:

- provide the police with power to arrest where they had reasonable grounds for believing an offence had been committed;
- enable police to place conditions on the bail of offenders, prior to release from police custody;
- provide police with a greater power to search premises and seize objects used to threaten or intimidate victims; and
- enable the police to arrest an offender for the purpose of applying for a restraint order, where the police believe that the offender has intimidated a person and the intimidation is likely to continue and lead to an assault.

Tasmania Police works closely with the Crisis Intervention Unit within the Department of Community and Health Services to help families involved in family violence.

Police staffing

During 1995–96, a review of the selection process for police applicants was undertaken. Greater emphasis is now to be given to communications skills, leadership qualities and potential to achieve national competency standards for Constable.

The Recruitment Training Course was extended from 30 weeks to 32 weeks. Trainees were placed with specific mentors for in-field training, the driver education curriculum was redesigned to conform to national competency-based standards and the physical fitness program was redesigned using an external consultant. Injuries to trainees were consequently reduced by 90%.

TASMANIA POLICE EMPLOYEES (POLICE AWARD), JUNE 1996

	no.
Commissioner (a)	1
Deputy Commissioner	1
Assistant Commissioner	2
Superintendent	7
Inspector	41
Sergeant (qualified)	61
Sergeant (unqualified)	114
Constable (qualified)	39
Constable (unqualified)	764
Trainee Constable	20
Total(b)	1 049

(a) The Police Commissioner is classed under the State Service Award. (b) Total includes 12 part-time officers.

Source: Department of Police and Public Safety Annual Report 1995–96

Project Baton

Sue Steinbauer, Department of Police and Public Safety

Project BATON is an initiative of the Department of Police and Public Safety. It aims to maximise the delivery of policing services to the community by using technology to enable more efficient and effective work practices, including processes, organisational structure, skill sets, reward and recognition systems, working relationships, technology, facilities, policies, and legislation.

While police are facing increasing demands, and while resourcing levels remain relatively stable, the re-engineering of business processes is the most likely source of improving service delivery.

The following key re-engineering opportunities have been identified to dramatically improve the quality and quantity of service delivery:

1: establish a community contact service

Integrating the Public Enquiry Office, switchboard and radio dispatch into a standard service that receives, records and analyses information. The service will provide an immediate resolution or initiate effective action.

2: create an expert response service

To provide an effective response with appropriate resources to incidents in a timely, concerned and professional manner.

3: targeted work allocation

To enhance the police capability to pro-actively use resources to meet community needs, that is, be where they are needed, when they are needed.

Three further opportunities are to:

- create a partnership management program;
- build an expanded information network; and
- develop professional and self-motivated personnel.

A number of *Quick Wins* or short term opportunities have already been implemented. These changes did not require significant investment and helped build momentum and support for the longer-term changes. It is estimated that their effect increased service delivery by the equivalent of 50 police officers. Examples include:

- decreased use of the Patrol and Incident Log. The impact in larger stations of streamlining reporting requirements has significantly reduced paperwork;
- replacement of sworn officers with State public servants at public enquiry counters;
- responsibility for the removal and storage of abandoned vehicles transferred to local government;
- allocation of additional video camera facilities in major locations; and
- pilot the use of E-mail to improve the flow and consistency of information.

Other *Quick Wins* which have been partly implemented include the replacement of police speed camera operators with civilian personnel and the implementation of targeted patrols wherever possible.

Through Project BATON a number of management strategies has been developed for asset, information and human resources.

The Information Management Strategy has led to a standardisation of departmental hardware and software. Using existing computer systems information on departmental outputs is now captured electronically and has removed from operational police the onerous task of completing activity reports.

The Human Resource Strategy will involve the integration of human resource functions into a single professional human resource service and address issues such as career management; learning and development; performance management; recruitment and selection; and workforce planning.

Business process re-engineering is helping the Department of Police and Public Safety ensure that Tasmania is a safe place to live and work.

Courts

Australians generally live with two sets of laws: State or Territory laws, and Commonwealth laws. In Tasmania, these laws are enforced by two sets of courts: Tasmanian State Courts and Federal Courts.

Tasmania has a two-tiered system of courts which consists of the Magistrate's Court (lower court) and the Supreme Court of Tasmania. States such as Victoria have a three-tier system with 'County Courts' between the Magistrate's Courts and the Supreme Court.

Although not strictly courts, there are also a number of tribunals, boards and commissions set up under particular statutes to act as specialised courts. Examples include the Workers Rehabilitation and Compensation Tribunal, and the Resource Management and Planning Appeal Tribunal.

The courts and tribunals are usually open to the public, although some may restrict access, such as Children's Courts.

Tasmanian Supreme Court

The Tasmanian Supreme Court is the highest State court. It comprises a Chief Justice and 5 other judges, all of whom are formally appointed by the Governor acting on the advice of the State Government.

The Supreme Court has jurisdiction for any civil action with no upper money limit as well as criminal jurisdiction for all offences to be heard by a jury. It also has some jurisdiction which is not given to the Magistrate's Court in equity, probate, and admiralty. The Supreme Court hears appeals from civil and criminal decisions of the Magistrate's Court.

The Full Court of the Supreme Court (which usually consists of 3 Supreme Court judges) hears appeals from decisions of a single judge in the ordinary Supreme Court. Similarly, the Court of Criminal Appeal (also with 3 judges) hears appeals from decisions of a single trial judge in criminal cases. The judges hear appeals in rotation. If a party wishes to appeal a decision of the appellate jurisdictions of the Supreme Court, they can only go before the High Court of Australia.

In 1995-96, approximately 79% of persons presented in the Supreme Court were convicted. This compares to 76% in the previous year and 69% in 1990-91.

Of all people presented in the Supreme Court in 1995-96, about 4% were acquitted, compared to almost 3% in the previous year. In 1990-91, this figure was almost 10%.

In 1995-96, of all persons presented in the Supreme Court, 17% were discharged, which compared to 21% in the previous year and almost 19% in 1990-91.

Common crime

In 1995-96, of common crime prosecutions in the Supreme Court, the highest number of prosecutions was recorded for burglary and stealing (60), followed by aggravated robbery (50), assault (48) and arson (23). Also during this time, the number of prosecutions that rose the highest from the previous year was for assault (an extra 26), and then aggravated robbery (an extra 13).

There were 10 fewer prosecutions for burglary and stealing, and 9 fewer prosecutions for unlawful sexual intercourse.

TASMANIAN SUPREME COURT, CRIMINAL PROSECUTIONS

	Persons presented no.	Persons convicted no.	Persons acquitted no.	Persons discharged no.	Persons absconding no.
1990-91	401	277	39	75	12
1991-92	437	325	30	82	18
1992-93	330	250	28	52	18
1993-94	316	237	20	59	6
1994-95	327	249	9	69	3
1995-96	324	255	14	55	4

Source: Director Public Prosecutions Annual Report 1995-96

TASMANIAN SUPREME COURT, COMMON CRIME PROSECUTION

Offence	1990-91 no.	1991-92 no.	1992-93 no.	1993-94 no.	1994-95 no.	1995-96 no.
Burglary and stealing	69	81	51	70	70	60
Stealing	39	29	21	16	16	10
Sexual intercourse	5	7	5	5	13	4
Aggravated robbery	31	34	33	38	37	50
Fraud and false pretences	21	30	17	3	10	14
Dangerous driving	5	4	6	3	n.a.	1
Rape	26	14	17	25	12	10
Arson	14	30	13	11	21	23
Selling and trafficking in dangerous drugs	27	38	39	25	19	18
Receiving	18	12	11	12	12	11
Assault	40	51	38	30	22	48
Murder	3	8	1	4	4	1
Manslaughter or causing death by dangerous driving	7	5	4	1	3	3

Source: Director Public Prosecutions Annual Report 1995-96

The Supreme Court of Tasmania

Chief Justice

The Hon. Mr Justice William Cox
appointed 1995.

Puisne Judges

The Hon. Mr Justice Peter Underwood,
appointed 1984.

The Hon. Mr Justice Christopher Wright,
appointed 1986.

The Hon. Mr Justice Ewan Crawford,
appointed 1988.

The Hon. Mr Justice William Zeeman,
appointed 1990.

The Hon. Mr Justice Pierre Slicer,
appointed 1991.

Magistrate's Court

The Magistrate's Court (the Tasmanian lower court) is quite a recent innovation in Tasmania. Until 1989 Tasmania had two courts of summary jurisdiction. Summary cases are minor ones tried without a jury. These were the Court of Petty Sessions (which had criminal jurisdiction) and the Court of Requests (which had civil—that is, non-criminal—jurisdiction over money claims which did not exceed \$5,000). In 1989, these 2 courts were effectively incorporated into a new lower court to be known as the Magistrate's Court, though it is still widely known by its previous names. This court consists of a Chief Magistrate, a Deputy Chief Magistrate and Magistrates. These are formally appointed by the Governor on the advice of the government of the day. By virtue of their office, magistrates are also Justices of the Peace, Commissioners of the Court of Requests, Workers' Compensation Commissioners and Coroners. As a result of this diversity of offices, the Magistrate's Court handles a wide variety of legal actions.

In its criminal jurisdiction, the court hears most criminal offences. In addition, the court can hear some less serious instances of more serious crimes. For example, stealing is a serious crime, but where the amount is small, the Magistrate's Court will hear the matter. The court will also hear committal proceedings in more serious criminal cases.

The Children's Court is also part of the Magistrate's Court. This Court has jurisdiction to hear criminal charges against children and young people to the age of 17 years.

Courts of Petty Sessions

There are Courts of Petty Sessions sitting in Hobart, Launceston, Devonport and Burnie, as well as temporary courts in other country centres. The court is constituted by a Magistrate, or two or more lay justices. In major population centres, a court sits regularly. In smaller centres a court sits less frequently or is convened as needed.

A Court of Petty Sessions deals with the most common offences such as drink driving and less serious instances of stealing, assault and drug offences. In more serious criminal cases like murder, manslaughter or conspiracy to pervert the course of justice, the Magistrate may hold a preliminary (committal) hearing. This hearing is held to decide whether there is enough evidence to send the accused person to a higher court for trial.

In 1994–95, there was a marked increase in the number of Traffic Infringement Notices (TINS) issued. Since 1991–92, there was a 66% increase, with a corresponding increase in the workload of the Magistrate's Court. Although there was an increase in the acceptance rate of TINS, there was also a 37% increase (since 1991–92) of those TINS proceeding to enforcement by way of issuing of a complaint.

Courts of Requests

These are constituted as courts with civil jurisdiction for particular municipalities, in accordance with the authority given by the *Local Courts Act 1896*. Courts are held before a commissioner who is usually a Magistrate. Every court has jurisdiction throughout the State but a plaintiff may have their action struck out if they bring it in a court other than the court nearest to which the cause of action arose. The current jurisdiction of a Court of Requests covers all personal actions where the debt or damage claimed does not exceed \$5,000.

The Small Claims Division of the Magistrate's Court was established in 1985 to deal with claims of up to \$2,000. The primary function of the magistrate hearing the claim is to attempt to bring the parties in a dispute to an acceptable settlement. If the magistrate cannot do so, he or she may determine the matter in dispute. Proceedings in this jurisdiction are private, straightforward and informal. Legal practitioners are excluded as a general rule, and the Magistrate may proceed as he/she sees fit.

COURTS OF PETTY SESSIONS, ACTIVITIES

	1991-92	1992-93	1993-94	1994-95
Complaints filed (no.)	41 020	42 339	42 028	48 407
TINS(a) issued (no.)	42 603	40 064	51 741	70 575
TINS(a) paid (no.)	32 174	30 204	41 613	56 339
TINS(a) paid (\$m)	n.a.	n.a.	3.66	5.71
Fines imposed (\$m)	n.a.	n.a.	5.65	5.81

(a) Traffic Infringement Notices.

Source: Department of Justice Annual Report 1995–96

COURT OF REQUESTS, ACTIVITIES

	1991-92	1992-93	1993-94	1994-95
Plaints filed (no.)	18 546	16 690	16 684	16 745
Filing fees collected (\$)	n.a.	n.a.	654 911	635 975
Collections for creditors (\$m)	n.a.	n.a.	1.55	1.29

Source: Department of Justice Annual Report 1995-96

SMALL CLAIMS, ACTIVITIES

	1991-92	1992-93	1993-94	1994-95
Claims filed (no.)	1 570	1 563	1 680	1 332

Source: Department of Justice Annual Report 1995-96

New legislation to replace the *Local Courts Act* has been passed but is yet to be proclaimed. This legislation establishes the Civil Division of the Magistrate's Court and is designed to streamline proceedings in the civil jurisdiction. It will be able to deal with claims up to \$20,000.

Children's Courts

In Tasmania a 'child' is someone under the age of 17 years. An integral part of the Court process is a report from a Child Welfare Officer (the representative of the Secretary of the Department of Community and Health Services), unless the court considers the offence trivial or the Director decides not to provide one. A child's parent has the right to be heard and to examine and cross-examine witnesses, or to be represented by counsel.

In summary proceedings, the court does not enter a conviction against a child. However, a conviction will be recorded if the court imposes a sentence of imprisonment, or there are special circumstances that warrant a conviction being recorded.

Children under 16 years cannot be sentenced to imprisonment and nor can they be sentenced for more than 2 years in total. Minimum penalties imposed by legislation do not apply to children. For children under 14 years, the maximum fine is \$20, and for those over 14 years, \$100. The court may also impose a supervision order which brings a child under the guidance of a Child Welfare Officer. If a child is older than 15 years, they come under the supervision of a Probation Officer. Alternatively, the court may declare the child a Ward of the State, placing them under the control of the Minister for Community and Health Services.

A child remains a ward until their eighteenth birthday, unless they have been released earlier. In cases where further investigation appears necessary, the court may issue a remand for an observation order before it makes a final decision. Neglected or uncontrolled children are also in the court's jurisdiction.

In 1997, the Community and Health Services Minister introduced new legislation into Parliament relating to the way with which young offenders are dealt. This could halve the number of young offenders with the introduction of a new youth justice system, using a range of measures including mediation and informal police and community sanctions. Young offenders may face mediation and counselling instead of appearing in court and will have to accept meeting their victims face-to-face.

Coroner's Courts

Coroners are appointed by the Governor and they have jurisdiction throughout the State. Under the *Coroners Act 1957*, a Coroner may hold an inquest concerning the manner of death of any person who has died:

- a violent or unnatural death;
- suddenly without the cause being known;
- from sudden infant death syndrome;
- in a prison; or
- in a mental institution.

At the direction of the Attorney-General, the Coroner may also be required to hold an inquest concerning any death. In addition, the Coroner may have to determine the cause of a fire.

The duty of the court is to determine who the deceased was, and the circumstances by which death occurred. Medical practitioners and other people may be summoned to give evidence. In the case of the death of an infant in a nursing home, the Coroner may also inquire generally into the conditions and running of the institution. On the evidence submitted at the inquest, the Coroner can order a person to be committed to the Supreme Court and can grant bail. In the case of murder, a Coroner can issue a warrant for apprehension.

The Coroner in holding an inquest usually acts alone. However, the Attorney-General or the relatives of the deceased may request that a four or six-person jury be empanelled. After considering a post-mortem report, the Coroner may dispense with an inquest unless the circumstances of death make an inquest mandatory under the Act.

The Coroners Amendment Act 1985 introduced 2 significant changes: the tape recording of depositions to speed up the hearing of inquests; and new provisions dealing with the care, custody and control of exhibits.

Commonwealth Courts

The High Court of Australia

The most senior of the Commonwealth Courts is the High Court of Australia, constituted by the Chief Justice and 6 Justices. The High Court has original jurisdiction under the *Commonwealth of Australia Constitution Act 1901* in cases concerning treaties, consuls, the Commonwealth of Australia as a party, residents in different States and matters arising under the Constitution.

It is the final court of appeal for Commonwealth and State courts. The High Court hears appeals from State Supreme Courts and the Federal Court of Australia, and in some circumstances from the Family Court of Australia. If there is sufficient business, the High Court may sit in Hobart.

The Federal Court of Australia

The Court was created by the *Federal Court of Australia Act 1976*. It was established to reduce the work of the High Court, so that the High Court could give greater attention to its primary function as interpreter of the Constitution. It also replaces the former Australian Industrial Court and the Federal Court of Bankruptcy and sits in two divisions: Industrial and General.

The Family Court

The Family Court of Australia was set up by the *Family Law Act 1975*. It hears petitions for divorce and has jurisdiction in the welfare and custody of children and in disputes as to any property of marriage and maintenance payments.

The sole ground for divorce became the irretrievable breakdown of marriage. In Tasmanian in 1995 there were 1279 divorces granted, a decrease of 240 on the number granted in the previous year. About 56% of the petitioners were females and 12% were joint applicants.

In 1996, the Launceston Registry of the Family Court closed its doors. Registrars and judges from Hobart now sit in Launceston on a regular basis. A counselling service also operates.

DIVORCES GRANTED BY SEX OF PETITIONER, TASMANIA

	Males no.	Females no.	Joint no.	Total no.
1990	448	654	68	1 170
1991	493	810	80	1 383
1992	528	740	97	1 365
1993	501	819	145	1 465
1994	486	898	160	1 544
1995	410	721	148	1 279

Source: ABS catalogue nos. 3307.0 & 3310.0

Sentences

The level of punishment for particular criminal offences is laid out in criminal law, where the penalties prescribed are the maximum possible. The magistrate or judge may exercise discretion in deciding what is appropriate, taking into consideration the particular offender, and the circumstances of the offence.

In December 1968 the death sentence was abolished in Tasmania, having last been imposed in 1946. Punishment aims to be preventive and is applied to avoid further trouble from the offender. By imposing a severe sentence on the offender, it serves as an example to the community, and as a deterrent to other potential offenders.

The most frequently imposed penalties are fines and periods of imprisonment. More recently there has been a move away from using imprisonment; sentences such as community service orders and probation orders are being used more widely.

Fines

In 1995-96, the number of fines delivered through the Magistrate's Court totalled 95,806. These included 71,024 infringement notices and 24,782 court fines. The value of fines imposed for this period totalled \$12.84 million. In total, only 65% of fines and fees were being collected or enforced for this period.

Imprisonment

Tasmania's main prison is at Risdon, near Hobart. There is also an outstation prison farm at Hayes in the Derwent Valley. In Launceston, a prison at the Police Headquarters building is a temporary holding centre where prisoners are held before being transferred to Risdon. People under the age of 18 years who receive a prison sentence are held at Ashley Detention Centre unless their behaviour is unsatisfactory.

In the year ended March 1996, the average prison population in Tasmania was approximately 267 persons per day, an increase of 2% in the daily average prison population. The imprisonment rate for the State was approximately 77 persons per 100,000 adults. This compared to the national figure of around 119 persons per 100,000 adults. The increase was mainly accounted for by the number of women in custody. The daily average number of women was about 10 in 1995-96 compared to about 6 in the previous year.

The cost of imprisonment in Tasmania for 1995-96 was \$140.60 per inmate per day or \$51,300 per annum. This is an increase of 3% on the previous year's cost of \$136.60 per inmate per day or \$49,900 per annum.

In 1995-96, 1138 prisoners were received: 1068 males (93.8%) and 70 females (6.2%). Some 55% of the people sentenced to gaol in 1995-96 had been imprisoned previously. Of all prisoners received, 29% had been to prison at least 3 times before.

A significant change in 1995-96, when compared with previous years, was the reduction in the number of sentences under two weeks. This change reflects the reduction in the number of persons received for fine default from 201 to 110. Just over 5% of prison sentences imposed during 1995-96 were for periods of one year or more while most prison sentences (almost 80%) were for a period under 3 months.

**PRISON INSTITUTIONS, TASMANIA,
30 JUNE 1996**

Institution	Capacity no.	Average Occupancy no.
Risdon		
Maximum security (male)	215	148
Medium security	36	28
Women's prison	23	10.5
Prison hospital	29	20
Hayes prison farm	70	47
Launceston prison	33	9
Ashley Detention Centre (a)	n.a.	4.5
Total	406	267

(a) People under the age of 18 years who receive a prison sentence are held at Ashley Detention Centre unless their behaviour is unsatisfactory.

Source: Department of Justice Annual Report 1995-96

Young offenders

A large proportion of prisoners were young offenders: over 42% of people sentenced to imprisonment during 1995-96 were under 25 years of age. The proportion of prisoners aged less than 25 has declined over the past 20 years. In 1971-72 the proportion was 62.1% and in 1981-82 it was 54.3%.

The declining proportion of young offenders being imprisoned can be attributed to the greater use of non-custodial sentencing options (such as community service orders), and a decline in the proportion of young people in the population. In 1971 the population of males aged less than 25 years was 96,326 (24.7% of the total population), while in 1996 there were 85,699 males in this age group, which was 18.6% of the population.

Port Arthur tragedy

In April 1996, Martin Bryant, who was responsible for the Port Arthur tragedy, was remanded in custody. The case created a number of problems unprecedented in prison experience in Australia. Staff ensured a high level of security was maintained without prejudicing the specialist medical treatment which the inmate required.

A video court link between the Maximum Security Prison and the courts, specially provided for this case, proved to be successful and was used subsequently in proceedings. Since then, the video court link has been used for a number of additional cases and appears to be gaining acceptance by the courts for formal remands. The reduction in demand for escorts external to the prison has resulted in cost and security benefits.

Community corrections

It is being increasingly recognised that harsh punishments are not necessarily effective in reducing offences. With this change in attitude, there has been a move towards imposing custodial sentences instead of imprisonment. The overall aim of this change is to reform the offenders.

In Tasmania, Community Corrections (in the Department of Justice) is responsible for custodial sentences and community service orders. The major activities of Community Corrections are the provision of pre-sentence and pre-release reports; operations of the Community Service Order Scheme; supervision of people on parole; and supervision of people on probation.

Community Corrections works closely with the Department of Community and Health Services, the Prison Service and the Police. It is essentially a community-based operation involving close liaison with families, private relief agencies and public departments concerned with human problems and law enforcement.

While there is a significant component of welfare work involved, Community Corrections conducts over 200 prosecutions annually against people failing to fulfil the conditions of their supervision or community service orders.

During 1995–96, there were 1171 Community Service Orders made in Tasmania. A total of 1052 community service order employees completed 75,255 hours of unpaid community work. The average length of each community service order has decreased over recent years.

Mediation program

In 1994–95 Community Corrections commenced a pilot Victim Offender Mediation Program in the Hobart area. This program provides an opportunity for the victim of a crime to meet the offender, subject to the agreement of both parties. A report of their meeting and of any discussions or agreements which result may be forwarded to the Magistrate who may take this into account in passing sentence.

The purpose of the program is to assist victims to overcome some of the fears which may result from some crimes, and to help offenders understand the personal impact of their crime.

In 1995–96 the program became permanent and 8 successful mediations took place.

Legal aid services

Legal aid services provide legal assistance to help people who are unable to pay for a lawyer. In Tasmania, legal aid is offered through the Legal Aid Commission of Tasmania, with offices in Hobart, Launceston and Burnie. Legal Aid is also offered through offices of the Community Legal Service in Hobart, Bridgewater, Launceston and Devonport.

The private welfare agency Anglicare also offers legal aid. Other agencies which provide more specialised assistance include the Aboriginal Legal Service, the Human Rights and Equal Opportunity Commission, and the Child Support Agency.

The Legal Aid Commission of Tasmania offers services which range from giving basic legal advice, to providing a lawyer in court. Free advice is given on any legal problem but if it is necessary to provide assistance beyond simple advice or referring a person to another service, a client must apply for legal aid.

Community Legal Services provide an alternative to mainstream legal aid provided through the Commission. Voluntary lawyers and community workers offer advice to clients, primarily during evening sessions. The primary form of assistance is referral to other services and the aim is to facilitate people to help themselves. In addition, Community Legal Services are involved in community legal education and advocacy of specific law reform issues.

Tasmania's Legal Aid Commission advises 26,000 Tasmanians each year on the phone, advises another 10,000 in its clinics, and extends aid to more than 7000 people. The Commission is involved in the bulk of criminal cases and a significant proportion of family law cases.

There is a move to using more information technology, which will result in structural changes; the employment of another 2 lawyers will assist with case loads, bringing the number of lawyers employed around the State to around 30.

FURTHER READING

ABS publications

Court Statistics, Tasmania 1993 (4508.6) final issue

Crime and Safety, Australia, April 1993 (4509.0)

Divorces, Australia (3070.0)

Firearms Deaths, Australia, 1980–95 (4397.0)

Information Paper, National Crime Statistics (4511.0)

Marriages and Divorces, Australia (3310.0)

National Correctional Statistics: Prisons (4512.0)

Recorded Crime, Australia (4510.0)

Other publications

Chalmers, D.R.C., *Textbook for Legal Studies, Tasmania*, Butterworths, Sydney, 1992

Department of Police, *Annual Report*, Government Printer, Hobart

Department of Justice, *Annual Report*, Government Printer, Hobart

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Hobart Community Legal Service Inc., *The Tasmanian Law Handbook*, (Derkley, H., ed.), Hobart, 1994

Industry Commission, *Report on Government Service Provision*, Vol 2, 1997

Legal Aid Commission, *Annual Report*, Government Printer, Hobart

Mukherjee, S.K., Scandia, A., Dagger, D., and Mathews, W., *Source Book of Australian Criminal and Social Statistics: 1804–1988*, Australian Institute of Criminology, Canberra, 1989

Parole Board, *Annual Report*, Government Printer, Hobart

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CHAPTER 6

Public finance



Photo: The Mercury

The Tasmanian Government extended the operation of blackjack and poker machines into selected hotels and clubs from 1 January 1997. At 30 June 1997, the State Government received a little more than half the revenue it expected from the extension of gaming machines; \$1.6m out of an expected \$3m.

The Australian Bureau of Statistics categorises the Australian economy into institutional sectors for the purposes of compiling statistics, particularly the Australian National Accounts. The Standard Institutional Sector Classification of Australia (SISCA) recognises three subsectors applicable to the public sector. The subsectors are:

- general government enterprises;
- public trading enterprises; and
- public financial enterprises.

The scope of Government Finance Statistics (GFS) includes only general government and public trading enterprises, collectively referred to as the non-financial public sector. This includes all enterprise units owned or controlled by Commonwealth, State, Territory and local governments and classified as either general government or public trading.

Since an important focus of GFS is to establish the source and structure of governments' financing and since governments have ready access to their financial institutions (Reserve Bank, State-owned banks, etc.), the combination or consolidation of financial transactions of the non-financial public sector with transactions of public financial enterprises would result in a less meaningful statistical account of public sector activity.

• General government enterprises

General government enterprises are mainly engaged in the production of goods and services outside the normal market mechanism. The costs of production are mainly financed from public revenues. These goods and services are often free of charge, or provided at a nominal price well below their cost of production. Examples of general government enterprises are the Departments of Education, Community and

STATE GENERAL GOVERNMENT TRANSACTIONS, TASMANIA (c)

Item	1993-94 \$m	1994-95 \$m	1995-96 \$m
Current outlays			
Final consumption expenditure	1 316	1 362	1 413
Interest payments	393	384	331
Other	228	248	260
Total current outlays	1 938	1 995	2 005
Capital outlays			
Expenditure on new fixed assets	148	154	175
Expenditure on second-hand fixed assets (net)	-35	-37	-41
Capital grants	80	23	36
Advances paid to public trading enterprises (net)	13	-104	-45
Other	-166	7	-16
Total capital outlays	13	43	109
Total outlays	1 951	2 038	2 114
Revenue and grants received			
Taxes, fees and fines	598	645	657
Interest received	237	229	193
Grants received	1 120	1 133	1 214
Other	86	100	108
Total revenue and grants received	2 041	2 106	2 173
Financing transactions			
Advances received	-120	-142	-82
Borrowing (net)	959	-253	-60
Other	-929	327	83
Total financing transactions (a)	-90	-68	-59
Deficit (b)	-90	-68	-59
less advances paid (net)	-183	-100	-63
equals deficit adjusted for net advances	93	31	5

(a) Current plus capital outlays minus revenue and grants. (b) Financing transactions minus increase in provisions. (c) Any discrepancy between the total and the sum of component items is due to rounding.

Source: ABS catalogue no. 5501.6

Cultural Developments; the Department of Community and Health Services; and the Department of Police and Public Safety.

- Public trading enterprises

Public trading enterprises are mainly engaged in the production of goods and services for sale in the market place. The intention is to maximise returns to their owners, to recover, as a minimum, a substantial part of costs. Public trading enterprises include the Hydro-Electric Corporation, TT-Line, port authorities and water boards.

The classification system used in GFS is based on standards promulgated by the International Monetary Fund (IMF), and aims to organise the individual financial transactions of the non-financial public sector into meaningful categories appropriate for analysis, planning and policy determination. Government transactions are classified into three major categories

- Economic Transactions Framework (ETF) which deals with the nature of the financial transactions. The ETF is made up of four major groups: current outlays, capital outlays, revenue and grants received, and financing transactions.
- Taxes, fees and fines revenue is further detailed by a separate classification.
- Government Purpose Classification, which classifies current and capital outlays according to the purpose of the transactions.

Stocks of financial assets and liabilities are also organised to show the net debt situation of sectors within the non-financial public sector.

Statistics are presented on a consolidated basis, which means that certain transactions flowing within a defined sector are eliminated. This is done to show the impact of a defined sector on the rest of the economy.

STATE GENERAL GOVERNMENT FINAL CONSUMPTION EXPENDITURE, TASMANIA

Purpose	1993-94 \$m	1994-95 \$m	1995-96 \$m
General public services	148	170	163
Public order and safety	114	117	123
Education			
Primary and secondary	256	254	260
Tertiary	126	145	150
Other	64	64	73
Health	302	310	341
Social security and welfare	58	72	81
Housing and community amenities	13	14	13
Recreation and culture	30	31	35
Agriculture, forestry, fishing and hunting	62	63	65
Mining, manufacturing and construction	5	4	3
Transport and communications	55	58	63
Other	82	59	44
Total	1 316	1 362	1 413

Source: ABS catalogue no. 5512.0 and unpublished data

State Government finance

The major functions provided and administered by State Government include public order and safety, education, health, transport, welfare, and housing and community amenities. The revenue used to perform these functions derives mainly from Commonwealth grants and various state government taxes, fees, and fines (payroll taxes, stamp duties, motor vehicle taxes, gambling taxes etc).

State general government sector

The total outlays of general government in 1995-96 were \$2,114 million, compared to \$2,038 million in 1994-95. Current outlays contributed \$2,005 million, of which \$1,413 million was final consumption expenditure. By far the most important elements of final consumption expenditure were education

(34%) and health (24%). Of the \$483 million spent on education, \$260 million was spent on primary and secondary schooling, \$150 million on tertiary institutions and \$73 million on other forms of education. Capital outlays for 1995-96 were \$109 million, a significant increase of 154% on the 1994-95 figure of \$43 million. This was primarily due to a decline in Public Trading Enterprise repayments of advances back to the general government sector and a \$21 million increase in expenditure on new fixed assets. The net advances paid to public trading enterprises figure comprises new advances made, less any repayments received. It will therefore become negative when the repayments exceed the new advances made in any particular year.

TOTAL STATE GOVERNMENT, GROSS FIXED CAPITAL EXPENDITURE, TASMANIA

Purpose	1993-94 \$m	1994-95 \$m	1995-96 \$m
General public services	-1	-7	3
Public order and safety	12	16	16
Education			
Primary and secondary	16	23	21
Tertiary	9	10	10
Other	1	2	2
Health	16	17	27
Social security and welfare	—	-1	—
Housing and community amenities	42	25	31
Recreation and culture	11	12	10
Fuel and energy	71	58	97
Agriculture, forestry, fishing and hunting	5	5	8
Mining, manufacturing and construction	—	—	—
Transport and communications	204	62	61
Other	—	—	-1
Total	386	223	284

Source: ABS catalogue no. 5512.0 and unpublished data.

State Government public trading enterprises, Tasmania

Derwent Entertainment Centre Management Authority	Printing Authority of Tasmania
Egg Marketing Board	Public Trust Office
Hobart Regional Water Board	Rivers and Water Supply schemes
Housing Division of Community and Health Services	Southern Regional Cemetery Trust
Hydro-Electric Corporation	Stanley Cool Stores Board
Marine boards and port authorities	Tasmanian Dairy Industry Authority
Metropolitan Transport Trust	Tasmanian Grain Elevators Board
North West Regional Water Authority	Tasmanian International Velodrome Management Authority
Port Arthur Historic Site Management Authority	Tasmanian Totalizator Agency Board
	T'T-Line

STATE PUBLIC TRADING ENTERPRISES TRANSACTIONS, TASMANIA (c)

Item	1993-94 \$m	1994-95 \$m	1995-96 \$m
Current outlays			
Interest payments	226	220	209
Income transferred to general government	23	30	31
Total current outlays	249	249	240
Capital outlays			
Expenditure on new fixed assets	297	109	151
Expenditure on second-hand fixed assets (net)	24	3	-1
Other	-1	-6	1
Total capital outlays	271	100	150
Total outlays	520	349	390
Revenue and grants received			
Net operating surpluses	247	256	261
Interest received	12	10	9
Grants received	77	23	30
Other property income and other revenue	5	5	5
Total revenue and grants received	340	294	305
Financing transactions			
Net advances received	-13	-109	-51
Net borrowing	56	29	-43
Increase in provisions	99	135	154
Other financing transactions	39	—	25
Total financing transactions (a)	180	55	85
Deficit (b)	82	-80	-69
less advances paid (net)	-4	-5	2
equals deficit adjusted for net advances	86	-75	-67

(a) Current plus capital outlays minus revenue and grants. (b) Financing transactions less increase in provisions. (c) Any discrepancy between the total and the sum of component items is due to rounding.

Source: ABS catalogue no. 5512.0

Total general government revenues increased by 3% to \$2,173 million in 1995–96, (from \$2,106 million in 1994–95). Grants received from the Commonwealth Government constituted the largest revenue item, increasing \$81 million, from \$1,133 million in 1994–95 to \$1,214 million in 1995–96. The proportion of total general government revenue attributable to grants rose from 54% in 1994–95 to 56% in 1995–96.

Public trading enterprise sector

The public trading enterprise sector returned a surplus of \$69 million in 1995–96, compared with a surplus of \$80 million in 1994–95. This follows a deficit of \$82 million in 1993–94 and surpluses for 1992–93 and 1991–92. The deficit in 1993–94 was influenced by increased capital outlays, a result of the \$155 million purchase of the Spirit of Tasmania passenger ferry.

Notable movements in 1995–96 include an increase in expenditure on new fixed assets of \$42 million which can be attributed to

increased capital expenditure by the Hydro-Electric Corporation on transmission and distribution.

Increases in provisions for 1995–96 totalled \$154 million, compared with \$135 million in 1994–95 and \$99 million in 1993–94.

The low 1993–94 figure was mainly due to reductions in provisions for retirement benefits and superannuation, by the Hydro-Electric Corporation, as a result of unusually high payments made to superannuants in that year.

TOTAL STATE GOVERNMENT TRANSACTIONS, TASMANIA (c)

Item	1993–94 \$m	1994–95 \$m	1995–96 \$m
Current outlays			
Final consumption expenditure	1 316	1 362	1 413
Interest payments	547	534	483
Other	228	248	260
Total current outlays	2 091	2 145	2 157
Capital outlays			
Expenditure on new fixed assets	445	263	326
Expenditure on second-hand fixed assets (net)	-59	-40	-42
Other	-165	2	-12
Total capital outlays	220	225	272
Total outlays	2 312	2 370	2 429
Revenue and grants received			
Taxes, fees and fines	598	645	657
Net operating surplus of public trading enterprises	247	256	261
Interest received	175	169	145
Grants received	1 121	1 135	1 210
Other	63	75	78
Total revenue and grants received	2 204	2 279	2 352
Financing transactions			
Increases in provisions	99	135	154
Advances received (net)	-120	-141	-81
Borrowing (net)	1 015	-224	-103
Other	-886	320	107
Total financing transactions (a)	108	91	77
Deficit (b)	9	-45	-77
less advances paid (net)	-175	-1	20
equals deficit adjusted for net advances	184	-44	-57

(a) Current plus capital outlays minus revenue and grants. (b) Financing transactions minus increase in provisions. (c) Any discrepancy between the total and the sum of component items is due to rounding.

Source: ABS catalogue no. 5501.6

Local government finance

Tasmania's 29 local government authorities (6 city councils and 23 municipal councils) are responsible for a number of functions within their municipalities including:

- the administration, construction and maintenance of roads, water, sewerage and stormwater systems;
- the provision of garbage and other sanitary services;
- performing regulatory roles relating to construction supervisions, planning and animal registrations;
- the administration of recreational amenities including public halls, sports grounds, parks and swimming pools; and
- the administration of libraries, museums and other cultural facilities and services.

Local government authorities fund these operations principally through property taxes (rates) and grants from State and Commonwealth governments. Other forms of revenue include charges for goods and services rendered, building fees and interest.

The local government sector returned a surplus of \$4 million in 1995-96, compared with \$9 million in 1994-95 and \$12 million in 1993-94. This is the sixth consecutive year in which the local government sector has returned a surplus.

In 1995-96, total current outlays were \$175 million. The most significant areas of expenditure were general public services (\$43 million or 25%), recreation and culture (\$32 million or 18%) and transport and communications (\$29 million or 17%). Tasmanian local government authorities raised \$142 million in taxes, fees and fines in 1995-96

LOCAL GOVERNMENT AUTHORITIES FINANCES, TASMANIA, 1995-96

	Total revenue and grants received \$'000	Total outlays and net advances \$'000	Deficit (a) \$'000	Net debt (b) \$'000
Break O'Day	5 631	5 759	-59	949
Brighton	8 327	9 821	1 026	6 594
Burnie	21 591	22 672	-948	-6 288
Central Coast	18 352	16 865	2 042	-1 447
Central Highlands	3 774	3 589	196	-492
Circular Head	9 194	9 020	-177	3 801
Clarence	30 271	29 184	2 071	11 818
Derwent Valley	6 612	7 043	383	4 704
Devonport	22 842	23 267	-1 436	8 480
Dorset	5 598	4 887	-716	-2 186
Flinders	2 204	2 489	286	-2 221
George Town	6 339	6 243	-234	9 306
Glamorgan/Spring Bay	5 579	5 777	67	345
Glenorchy	35 097	40 114	4 016	18 471
Hobart	56 978	64 353	4 205	-15 066
Huon Valley	10 798	10 676	-157	3 221
Kentish	3 363	3 509	118	-350
King Island	3 312	3 836	466	-442
Kingborough	21 360	20 020	-2 592	-3 235
Latrobe	6 293	6 676	185	1 511
Launceston	57 559	61 892	-980	-8 384
Meander Valley	9 875	9 441	-820	809
Northern Midlands	9 634	8 878	-1 279	3 589
Sorell	7 947	7 937	-160	1 459
Southern Midlands	6 296	6 631	183	624
Tasman	3 017	2 811	-206	-273
Waratah/ Wynyard	10 118	9 536	-898	3 861
West Coast	5 700	5 903	203	1 008
West Tamar	9 633	10 071	102	1 324
Tasmania	403 293	418 894	-3 733	34 312

(a) Outlays and net advances minus revenue and grants minus increase in provisions. (b) Gross indebtedness less financial assets

Source: ABS catalogue no. 5501.6

compared to \$132 million in the previous year. Municipal rates was the largest contributor to this total, increasing by \$9 million to \$134 million in 1995–96.

Capital outlays of \$100 million were largely spent on transport and communication (\$44 million), which is consistent with the historic expenditure pattern, and sewerage (\$19 million), which has increased by \$4 million.

At the 30 June 1996, the net debt position of Tasmania's local government sector was \$34 million, a \$5 million improvement on the 30 June 1995 figure. The net debt of the local government sector has decreased steadily over recent years, as a consequence of recurring surpluses.

The net debt of individual local government authorities ranges from \$18 million for Glenorchy City Council, to a \$15 million net surplus for the Hobart City Council. The net debt per head figures are more enlightening, ranging from a net debt per head of \$1,332 for George Town to a net surplus per head of \$2,414 for Flinders Island.

Net debt figures are an indication of a councils liquidity and do not take into account fixed assets. Thus, an increased net debt figure may result from a council's borrowing for the construction of infrastructure (roads, water, sewerage), recreational facilities, sports grounds etc.

LOCAL GOVERNMENT AUTHORITIES, FINANCES PER HEAD, TASMANIA, 1995–96

	Total revenue and grants received \$	Total outlays and net advances \$	Deficit (a) \$	Net debt (b) \$
Break O'Day	961	983	-10	162
Brighton	653	770	80	517
Burnie	1 053	1 106	-46	-307
Central Coast	865	795	-96	-68
Central Highlands	1 353	1 286	-70	-176
Circular Head	1 082	1 061	-21	447
Clarence	609	587	-42	238
Derwent Valley	647	689	37	460
Devonport	901	917	-57	334
Dorset	743	649	-95	-290
Flinders	2 396	2 705	311	-2 414
George Town	908	894	-34	1 332
Glamorgan/Spring Bay	1 354	1 402	16	84
Glenorchy	795	909	91	418
Hobart	1 210	1 367	89	-320
Huon Valley	812	803	-12	242
Kentish	629	656	22	-65
King Island	1 743	2 019	245	-233
Kingborough	773	725	-94	-117
Latrobe	847	899	25	203
Launceston	881	948	15	-128
Meander Valley	629	602	-52	52
Northern Midlands	854	787	-113	-318
Sorell	805	804	-16	148
Southern Midlands	1 166	1 228	34	116
Tasman	1 447	1 348	99	-131
Waratah/ Wynyard	726	684	-64	277
West Coast	844	875	30	149
West Tamar	488	510	5	67
Tasmania	852	885	-8	72

(a) Outlays and net advances minus revenue and grants minus increase in provisions. (b) Gross indebtedness less financial assets.

Source: ABS catalogue no. 5501.6

LOCAL GOVERNMENT TRANSACTIONS, TASMANIA

Item	1993-94 \$m	1994-95 \$m	1995-96 \$m
Current outlays			
General government final consumption expenditure	122	129	147
Interest payments	20	19	16
Other	10	11	12
Total current outlays	152	159	175
Capital outlays			
Gross fixed capital expenditure	81	85	98
Other	1	2	2
Total capital outlays	83	87	100
Total outlays	235	246	275
Revenue and grants received			
Taxes, fees and fines	125	132	142
Net operating surpluses of public trading enterprises	27	25	25
Interest received	9	11	12
Grants received	61	57	65
Other	7	11	14
Total revenue and grants received	229	236	259
Financing transactions			
Increase in provisions	17	19	19
Net borrowing	-1	13	-7
Other	-11	4	4
Total financing transactions	5	10	16
Deficit (a)	-12	-9	-4

(a) Financing transactions less increase in provisions.

Source: ABS catalogue no. 5501.6

Public sector debt

The net debt of the State Government was \$3,274 million at 30 June 1996, of which 58% was attributed to the public trading enterprise sector. The local government sector's net debt was \$34 million at 30 June 1996, giving a total State and Local Government net debt figure of \$3,308 million. Local Government accounts for only 1% of total State and Local Government net debt.

Public trading enterprise debt has a different impact on public finances from general government debt, as public trading enterprises tend to borrow to attain assets which are used to generate revenue to service the debt. General government borrowing usually relates to assets used in the provision of services which do not generate revenue.

Since 1990 Tasmania has been given a credit rating along with the other States. The ratings of the major agencies such as Moody's Investors Service, and Standard and Poor's Ratings Group are extremely important because they affect the

interest rates which the State must pay, and thus affect the budget.

STATE AND TERRITORY GOVERNMENT NET DEBT

	As at 30 June		
	1994 \$m	1995 \$m	1996 \$m
NSW	19 851	19 250	18 582
Vic.	32 027	31 637	20 617
Qld	-242	-1 331	-2 456
SA	8 568	8 511	7 753
WA	8 116	7 605	6 323
Tas.	3 407	3 316	3 274
NT	1 394	1 407	1 351
ACT	83	112	147

Source: ABS catalogue no. 5513.0 and unpublished data

**STATE AND LOCAL GOVERNMENT FINANCIAL ASSETS AND
LIABILITIES, TASMANIA (a)**

	As at 30 June		
	1994 \$m	1995 \$m	1996 \$m
State general government			
Gross indebtedness	3 797	3 669	3 284
Financial assets	2 438	2 319	1 901
Net debt (b)	1 358	1 350	1 383
State public trading enterprise			
Gross indebtedness	2 313	2 228	2 111
Financial assets	263	261	220
Net debt (b)	2 049	1 966	1 891
Total State Government			
Gross indebtedness	5 184	5 060	4 658
Financial assets	1 777	1 743	1 384
Net debt (b)	3 407	3 316	3 274
Local government			
Gross indebtedness	193	180	172
Financial assets	141	140	137
Net debt (b)	52	40	34
State and local government			
Gross indebtedness	5 359	5 188	4 784
Financial assets	1 892	1 832	1 477
Net debt (b)	3 467	3 356	3 308

(a) Totals between sectors may not add because of consolidation. (b) Gross indebtedness less financial assets.

Source: ABS catalogue no. 5501.6 and unpublished data

State and local government taxation

State Government revenue from taxes, fees and fines increased \$12 million, from \$645 million in 1994-95 to \$657 million in 1995-96. The major components of this movement were a \$7 million (9%) increase in tobacco franchise taxes and a \$7 million (9%) increase in motor vehicle taxes.

Local government revenue from taxes, fees and fines increased \$10 million, from \$132 million in 1994-95 to \$142 million in 1995-96. Municipal rates was the largest contributor, increasing 7% to \$134 million in 1995-96.

Tasmania's State and local government taxes, fees and fines per head figure was \$1,690 in 1995-96, a \$51 increase on the 1994-95 figure of \$1,639 and well below the average of all States and territories, \$1,965. Tasmania has the second lowest taxes, fees and fines per head figure in Australia with Queensland recording the lowest (\$1,594).

**STATE AND LOCAL GOVERNMENT TAXES, FEES
AND FINES PER HEAD OF MEAN POPULATION**

	1993-94 \$	1994-95 \$	1995-96 \$
NSW	1 958	2 007	2 139
Vic.	1 993	2 039	2 184
Qld	1 429	1 520	1 594
SA	1 561	1 618	1 721
WA	1 660	1 744	1 818
Tas.	1 527	1 639	1 690
NT	1 391	1 526	1 725
ACT	1 733	1 775	1 792
All States	1 790	1 851	1 965

Source: ABS catalogue no. 5506.0 and 5512.0

Glossary

ECONOMIC TRANSACTIONS FRAMEWORK

(ETF): This framework is used to classify economic transactions of government agencies. It applies to transactions between agencies, and between an agency and the rest of the economy.

Transactions have four main groups: current outlays; capital outlays; revenue and grants received; and financing transactions.

- **CURRENT OUTLAYS:** Current outlays are both expenditure on goods and services not resulting in acquisition of assets, and transfer payments. There are three sub-groups of transactions in this group:
 - general government final consumption expenditure relates to the net result to the government for the provision of goods and services. As governments usually charge less than the cost of these services, a net payment results.
 - requited current transfer payments are those where something is received in return (such as rent in return for the use of land).
 - unrequited current transfer payments are those where no direct benefit is received in return (such as payment of personal benefits).
- **CAPITAL OUTLAYS:** Capital outlays are capital expenditure on fixed assets, land and intangible assets and changes in stock, plus net advances. Net advances are the only repayable transactions which are included in outlays and not in financing items. This is because advances are used as a means of carrying out government policy in particular purposes.
- **REVENUE AND GRANTS RECEIVED:** Revenue and grants are those receipts available to finance outlays of public authorities and consist mainly of non-repayable receipts (such as taxes, grants and interest) and operating surpluses of public trading enterprises.

• FINANCING TRANSACTIONS:

Financing transactions are the means by which governments finance their deficits or invest their surpluses. Financing transactions include net borrowings (domestic and overseas), advances from other government agencies, changes in private trust funds, changes in cash and bank balances, net investments, and changes in provisions.

FINAL CONSUMPTION EXPENDITURE:

General government expenditure on the provision of goods and services is known as final consumption expenditure. It comprises current expenditure on wages, salaries and supplements, superannuation payments and goods and services other than fixed assets and stocks, less sales of goods and services and superannuation receipts.

NEW FIXED ASSETS EXPENDITURE:

These are transactions which relate to payments for new fixed assets, such as buildings and capital equipment. These transactions are found in both general government and public trading enterprises.

GOVERNMENT PURPOSE CLASSIFICATION:

This classification categorises outlays in terms of the purpose for which the outlay is made. Because of the nature of the federal system in Australia, State governments have large expenditures on education, health, and police.

CENTRAL BORROWING AUTHORITY

(CBA): Tasmania has a central borrowing authority, as do most of the Australian States and territories. In Tasmania the CBA is the Tasmanian Public Finance Corporation, or Tascorp, the agency through which most of the borrowing and investing for other government agencies is conducted.

STATE AND LOCAL GOVERNMENT TAXES, FEES AND FINES, TASMANIA

	1993–1994 \$m	1994–1995 \$m	1995–96 \$m
Employers payroll taxes	131	137	142
Taxes on property			
Municipal rates	119	125	134
Other	148	155	153
Total	267	280	287
Taxes on provision of goods and services			
Excises	13	14	14
Taxes on gambling	45	51	55
Taxes on insurance	25	28	29
Total	83	93	98
Taxes on use of goods and performance of activities			
Motor vehicle taxes	70	76	83
Franchise taxes			
Petroleum products	47	47	48
Tobacco franchise taxes	63	76	83
Liquor franchise taxes	17	17	18
Other	—	—	—
Total	197	217	231
Total taxes	678	727	758
Total fees and fines	45	48	41
Taxes, fees and fines			
State government	598	645	657
Local government	125	132	142
Total	721	777	799

Source: ABS catalogue no. 5506.0

FURTHER READING

ABS publications

Classifications Manual for Government Finance Statistics, Australia (1217.0)

Government Financial Estimates, Australia (5501.0)

Expenditure on Education, Australia (5510.0)

Government Finance Statistics, Australia (5512.0)

Government Finance Statistics, Australia, Concepts, Sources and Methods (5514.0)

Information Paper. Developments in Government Finance Statistics (5516.0)

Government Finance Statistics, Tasmania (5501.6)

Public Sector Financial Assets and Liabilities, Australia (5513.0)

Taxation Revenue, Australia (5506.0)

Other publications

The Budget 1997–98 and Supporting Information. Government Printer, Hobart.

CHAPTER 7

Population

Photo: The Mercury



Tasmania's population continues to age. In 1996, the median age of Tasmania's population was 34.6 years compared with the 1986 figure of 30.0 years.

The first human inhabitants of what is now Tasmania arrived more than 35,000 years ago, crossing the land bridge that then connected Tasmania to the mainland. The total population, before white settlement, has been estimated at between 5,000 and 10,000. White settlement began in 1803 to secure British strategic interests against the French. In keeping with the penal nature of the early settlement, most of the population were convicts or government officials. At the Census of 1847, just over 50% of the total population of 70,000 were, or had been, convicts. Less than 20% were free immigrants.

Until the mid-nineteenth century, Tasmania experienced a fairly rapid build-up of population. However, in the early 1850s this rapid rate of population increase slumped. This decline was due to two major factors: the discovery of gold in Victoria in 1851, which led to a large-scale emigration of Tasmanians, and the ending of

transportation in 1853. This decline was reversed in the early 1870s, partly due to a growth in mainland markets for Tasmanian primary products, and also important tin and gold discoveries in Tasmania. Between 1861 and 1876, the population increased from 90,000 to 105,000. The next 15 years to 1891 saw the population reach 147,000, an annual rate of increase more than double that of the previous period.

The effects of economic depression in Australia in the 1890s, while severe, were eased somewhat in Tasmania by the silver and copper mining boom on the West Coast. Tasmania's relative prosperity was reflected in a net migration in excess of 4,000 per year from 1896 to 1899. While federation in 1901 meant free access to mainland markets for primary producers, many small manufacturers faced strong competition from mainland firms.

Economic stagnation, exacerbated by the decline of the West Coast mining boom, was reflected in a drift of people to the mainland. Attracting manufacturing industries through the provision of cheap hydro-electric power came to be seen as a way out of the economic gloom. While this was partly successful, it was not wholly sufficient, especially during the economic depression of the late 1920s and 1930s. Rural industries, always important to Tasmania's economic well-being, were particularly affected by the depression. In the 35 years between 1900 and 1935, Tasmania's population grew at less than 0.7% per year.

After World War II, Tasmania shared in the prosperity of the Australian economy. The post-war baby boom and gains from overseas immigration resulted in an annual population increase of 1.5% in the 35 years from 1945 to 1980, more than double the pre-war rate. Tasmanians made up 2.9% of the population.

In the 1980s Tasmania still lagged behind the mainland States. Tasmania's annual growth rate averaged 0.8% while the Australian growth rate averaged 1.5%. As a result, the proportion of the total Australian population living in Tasmania decreased to 2.7%.

In the early 1990s a move was made to counteract the low growth. In 1990 Tasmania's growth rate averaged 1.4%. However, this was short-lived and while the Australian growth rate has averaged 1.2% in the first seven years of the 1990s, Tasmania has averaged only 0.5%. With the annual rate below 0.5% since the beginning of 1993 Tasmania's proportion of the total Australian population at 31 December 1996 was 2.6%.

Population growth

From 1976 to 1996, Tasmania's resident population growth rate was the lowest of all the States, followed by South Australia, Victoria and New South Wales. In 1991-92, the population growth rate fell below 1%, falling each subsequent year to less than a fifth of 1% in 1995-96. The 1995-96 rate for Australia was over seven times the rate for Tasmania.

MAJOR COMPONENTS OF POPULATION GROWTH (a)

	Natural increase %	Net migration %	Total growth %
NSW	0.68	0.59	1.34
Vic.	0.62	0.26	0.99
Qld	0.78	1.59	2.32
SA	0.52	-0.14	0.34
WA	0.82	1.00	1.86
Tas.	0.55	-0.47	0.18
NT	1.63	0.43	2.30
ACT	1.07	0.06	1.14
Australia	0.70	0.63	1.37

(a) Year ended 30 June 1996.

Source: ABS catalogue no. 3101.0

ESTIMATED RESIDENT POPULATION (a)

	1976 '000	1996 '000	Growth %
NSW	4 959.6	6 203.9	25.1
Vic.	3 810.4	4 560.8	19.7
Qld	2 092.4	3 339.1	59.6
SA	1 274.1	1 474.4	15.7
WA	1 178.3	1 765.7	49.8
Tas.	412.3	474.6	15.1
NT	98.2	181.9	85.2
ACT	207.7	308.0	48.3
Australia	14 033.1	18 311.5	30.5

(a) Year ended 30 June.

Source: ABS catalogue no. 3101.0

POPULATION GROWTH, TASMANIA

Year ended 30 June	Growth no.	Rate %	Australian rate %
1990-91	4 614	1.00	1.28
1991-92	2 979	0.64	1.20
1992-93	1 805	0.38	0.97
1993-94	1 298	0.28	1.05
1994-95	838	0.18	1.21
1995-96	870	0.18	1.37

Source: ABS catalogue no. 3204.6

NATURAL POPULATION INCREASE, TASMANIA

Year ended 30 June	Births no.	Deaths no.	Natural increase no.	Rate %	Australian rate %
1990-91	6 972	3 712	3 260	0.71	0.83
1991-92	6 878	3 688	3 190	0.68	0.79
1992-93	6 790	3 675	3 115	0.66	0.78
1993-94	6 837	3 753	3 084	0.65	0.75
1994-95	6 775	3 836	2 939	0.62	0.73
1995-96 p	6 440	3 832	2 608	0.55	0.70

Source: ABS catalogue no. 3204.6

Natural increase

Until the year ended 30 June 1987, Tasmania's rate of natural increase closely mirrored Australia's, which, in line with most of the developed world had been gradually falling. However, since the year 1987-88 the Tasmanian rate has fallen below the Australian rate. In 1995-96 Tasmania's rate of natural increase was 0.55%, compared with the Australian rate of 0.70%.

Overseas migration

In Tasmania, the rate of population increase caused by overseas migration has always been low, and since 1987-88 the rate has been diminishing. In the year ended 30 June 1996, the rate of increase caused by overseas migration was estimated to be 0.1%. This was less than one-fifth of the Australian rate of population increase, 0.6%.

Migration

Interstate migration

Tasmania experienced net gains in interstate migration in the years 1988-89 to 1990-91. Since then, however, increasingly greater net losses have been recorded. In 1995-96 there was an estimated net loss of 2,725 people, or 0.58%.

ESTIMATED INTERSTATE MIGRATION, TASMANIA

Year ended 30 June	Arrivals no.	Departures no.	Net no.	Rate %
1990-91	11 696	10 880	816	0.18
1991-92	10 590	10 933	-343	-0.07
1992-93	11 089	12 642	-1 553	-0.33
1993-94	9 490	11 652	-2 162	-0.46
1994-95	10 142	12 857	-2 715	0.57
1995-96 p	10 577	13 302	-2 725	-0.58

Source: ABS catalogue no. 3204.6

ESTIMATED OVERSEAS MIGRATION, TASMANIA

Year ended 30 June	Arrivals no.	Departures no.	Net (a) no.	Rate %	Australian rate %
1990-91	2 028	1 559	408	0.09	0.51
1991-92	1 851	1 649	36	0.01	0.40
1992-93	1 979	1 582	103	0.02	0.17
1993-94	1 943	1 553	192	0.04	0.26
1994-95	2 189	1 723	312	0.07	0.45
1995-96 p	2 255	1 785	498	0.11	0.63

(a) Estimates of net overseas migration include an adjustment for change in travel intention.

Source: ABS catalogue no. 3204.6

Population distribution

In terms of population distribution, Tasmania is the most decentralised State with nearly 60% of the population living outside the capital city statistical division.

At 30 June 1996 the resident population of Tasmania was estimated at 474,592. On a regional basis, the Greater Hobart-Southern Region accounted for 48.5% of the population, the Northern Region 28.3% and the Mersey-Lyell Region 23.2%.

The local government area which had the largest percentage increase in estimated population since 1991 was Sorell (4.5%), followed by Meander Valley (2.9%), Tasman (2.4%) and Latrobe (2.4%). Kingborough recorded the largest actual increase of 2,672 people. The largest percentage loss was recorded by West Coast (3.6%).

ESTIMATED RESIDENT POPULATION IN LOCAL GOVERNMENT AREAS, TASMANIA

Local government area	1991 (a) no.	1996 (a) no.	Annual average rate of change %	Proportion of State %
Brighton	12 190	12 759	0.92	2.7
Central Highlands	2 969	2 552	-2.98	0.5
Clarence	49 379	49 552	0.07	10.4
Derwent Valley	10 346	9 862	-0.95	2.1
Glamorgan/Spring Bay	3 927	4 146	1.09	0.9
Glenorchy	43 578	44 459	0.40	9.4
Hobart	47 681	46 926	0.32	9.9
Huon Valley	12 634	13 474	1.30	2.8
Kingborough	25 441	28 113	2.02	5.9
Sorell	8 518	10 634	4.54	2.2
Southern Midlands	5 136	5 577	1.66	1.2
Tasman	1 956	2 207	2.44	0.5
Greater Hobart-Southern Region	223 755	230 261	0.57	48.5
Break O'Day	5 551	5 888	1.19	1.2
Dorset	7 428	7 425	-0.01	1.6
Flinders	965	981	0.33	0.2
George Town	7 165	6 929	-0.67	1.5
Launceston	65 370	63 918	-0.45	13.5
Meander Valley	15 005	17 270	2.85	3.6
Northern Midlands	11 472	11 846	0.64	2.5
West Tamar	18 124	19 840	1.83	4.2
Northern Region	131 080	134 097	0.46	28.3
Burnie	21 071	19 971	-1.07	4.2
Central Coast	21 135	21 358	0.21	4.5
Circular Head	8 530	8 449	-0.19	1.8
Devonport	25 211	24 933	-0.22	5.3
Kentish	5 176	5 461	1.08	1.2
King Island	1 917	1 882	-0.37	0.4
Latrobe	6 924	7 799	2.41	1.6
Waratah/Wynyard	14 339	14 013	-0.46	3.0
West Coast	7 664	6 368	-3.64	1.3
Mersey-Lyell Region	111 967	110 234	-0.31	23.2
Tasmania	466 802	474 592	0.33	100.0

(a) As at 30 June.

Source: ABS catalogue no. 3204.6

SEX BY AGE DISTRIBUTION, TASMANIA (a)

Age group (years)	Males no.	Females no.	Sex ratio males per 100 females
0-4	17 619	16 672	105.68
5-14	36 575	35 109	104.18
15-24	33 658	32 816	102.57
25-34	33 465	34 512	96.97
35-44	36 129	36 716	98.40
45-64	50 673	50 207	100.93
65 and over	26 254	34 187	76.80
All ages (b)	234 373	240 219	97.57

(a) As at 30 June. (b) There may be discrepancies between totals due to rounding.

Source: ABS catalogue no. 3101.0

Characteristics of Tasmanians

Sex

In 1996, the Tasmanian population contained an estimated 5,846 more females than males. This excess of females is concentrated in the 65 and over age group.

Age

Tasmania's population, like Australia's, continues to age. In 1996, the median age (the age at which one half of the population is younger and the other half older) of Tasmania's population was 34.6 years. This was 4.1 years above the median age in 1986 and 5.8 years above that in 1981. By comparison, the median age of all Australians in 1996 was 34.0 years.

The age distribution of Tasmania's population has also changed markedly over time. In 1901, 48% of the population were aged under 20 years. This compares with 33% who were aged under 20 years in 1986, and 29.4% in 1996.

Births and deaths

Births

The late 1950s and early 1960s was a period of peak fertility in the post-war era, before a decline in the mid 1960s which continued through the 1970s. Since 1980, a period of stability has been reached, but at a level only slightly over 50% of the 1961 rate.

Prior to 1977 the most fertile age group was 20-24 years; it is now the 25-29 age group. The fertility rates of the under 20 and 20-24 age groups have been declining steadily during the 1970s and 1980s, while the 25-29, 30-34 and 35-39 age groups have shown steady increases.

NET REPRODUCTION RATES, TASMANIA AND AUSTRALIA (a)

	Tasmania	Australia
1990	0.928	0.911
1991	0.935	0.890
1992	0.933	0.909
1993	0.923	0.896
1994	0.940	0.882
1995	0.916	0.876

(a) The extent to which the population can reproduce itself over time.

Source: ABS catalogue no. 3311.6

Several factors have contributed to these changes, including later marriage and an increasing period between marriage and the birth of the first child. For example, since the early 1960s the median age for spinster brides has increased, from about 21 years to 24.8 years in 1995. Also, in the mid 1960s the median duration between marriage and the birth of the first child was about 12 months; in the 1990s it has been, on average, about 2 and a half years.

The fertility rate, as measured by the net reproduction rate, is falling and since the early 1970s has been below replacement level. The Tasmanian fertility rate has generally been higher than the national rate.

Deaths

Life expectancy

Life expectancy is a measure used to indicate changes in the health status of a community. It is the number of years that a person can, on average, expect to live past their present age; it is based on death rates of the population. In the early twentieth century, life expectancy at birth was less than life expectancy at age 5, a reflection

of the high infant mortality rates.

More recently, with improvements in hygiene and health care, infant and early-age death rates have decreased significantly. Since the start of the century, life expectancy at birth has increased by 19.8 years for males and 22.0 years for females.

Changes to life expectancy rates for older age groups were only minor until the 1970s. In 1970–72, life expectancy for males aged 60 was 15.4 years, compared with 14.3 years in the first decade of this century. For females the difference was 19.7 compared with 16.2 years. Since 1970–72 there has been a significant increase in life expectancy of 60-year-olds. In 1993–95, life expectancy for males aged 60 was 19.5 years, an increase of 4.1 years from 1970–72. For females aged 60, life expectancy was 23.7 years, an increase of 4.0 years from 1970–72. Much of this improvement can be related to advances in the prevention and treatment of diseases associated with the circulatory system, including heart attacks and strokes.

LIFE EXPECTANCY, AUSTRALIA

Age (years)	1901 1910		1993–1995	
	Males years	Females years	Males years	Females years
0	55.2	58.8	75.0	80.8
5	57.9	58.6	70.6	76.4
10	53.5	56.0	65.7	71.4
20	44.7	47.5	55.9	61.6
40	28.6	31.5	37.2	42.1
60	14.3	16.2	19.5	23.7
70	8.7	10.0	12.4	15.6

Source: ABS catalogue no. 3311.6

Mortality

The 1970s, 1980s and 1990s were decades of considerable improvement in life expectancy. Improvements in age-specific death rates have been most marked among the age groups over 60 years with decreases of between 32% and 40% for males and 29% and 50% for females. The infant mortality rate has also fallen quite dramatically, from 20.3 per thousand live male births in 1960–62 to 8.5 in 1995, and from 17.3 to 3.2 among females.

AGE-SPECIFIC DEATH RATES, TASMANIA

Age group (years)	Males		Females	
	1970–72	1995	1970–72	1995
Under 1	17.8	8.5	11.5	3.2
1–4	1.0	0.3	0.7	0.0
5–9	0.5	0.2	0.4	0.1
10–14	0.6	0.2	0.3	0.1
15–19	2.4	0.7	0.6	0.1
20–24	2.0	1.2	0.5	0.5
25–29	1.8	1.8	0.8	0.2
30–34	1.8	1.2	0.8	0.5
35–39	2.1	1.1	1.3	0.7
40–44	3.4	1.7	1.9	1.7
45–49	5.3	3.1	3.0	2.5
50–54	9.5	4.2	5.6	3.6
55–59	15.5	7.5	8.0	5.8
60–64	25.2	15.0	12.4	8.8
65–69	39.5	26.9	21.3	15.0
70–74	62.2	39.7	36.5	21.5
75–79	91.9	60.7	60.9	39.6
80–84	164.0	103.9	135.5	67.6
85 and over	n.a.	209.2	n.a.	158.5

Source: unpublished ABS data

POPULATION, TASMANIA

	Total at 30 June no.	Mean year ended 30 June no.	Mean year ended 31 Dec no.	Estimated population (a) Totals at 31 December				Annual rate of increase of population (c) %
				Persons	Males	Females	Masculinity (b)	
1820	n.a.	n.a.	n.a.	5 400	n.a.	n.a.	n.a.	8.00
1830	n.a.	n.a.	n.a.	24 279	18 108	6 171	293.4	11.35
1840	n.a.	n.a.	n.a.	45 999	32 040	13 959	229.5	2.75
1850	n.a.	n.a.	n.a.	68 870	44 229	24 641	179.5	1.37
1860	n.a.	n.a.	88 752	89 821	49 653	40 168	123.6	5.12
1870 (d)	n.a.	n.a.	100 038	100 886	53 517	47 369	113.0	1.44
1880	n.a.	n.a.	113 648	114 790	60 568	54 222	111.7	2.02
1890	n.a.	n.a.	143 224	144 787	76 453	68 334	111.9	2.38
1900	n.a.	n.a.	172 631	172 900	89 763	83 137	108.0	2.21
1910	189 807	190 792	191 005	193 803	98 866	94 937	104.1	0.79
1920	209 425	208 599	210 350	212 752	107 259	105 493	101.7	1.37
1930	219 983	219 269	220 933	225 297	113 505	111 792	101.5	0.48
1940	240 191	240 023	241 134	244 002	123 650	120 352	102.7	0.31
1950	275 902	274 493	278 785	290 333	147 103	143 230	102.7	3.20
1960	343 910	344 111	346 913	355 969	180 511	175 458	102.9	1.31
1961 (d)	350 340	350 077	353 623	353 258	178 864	174 394	102.6	0.76
1962	355 668	353 175	355 682	358 087	181 085	177 002	102.3	1.37
1963	360 727	358 180	360 590	362 799	183 330	179 469	102.2	1.32
1964	364 311	362 758	364 554	366 508	185 051	181 457	102.0	1.02
1965	367 905	366 366	367 970	369 608	186 483	183 125	101.8	0.85
1966 (d)	371 436	369 600	371 483	373 309	188 180	185 129	101.6	1.00
1967	375 244	373 321	375 397	377 841	190 369	187 472	101.5	1.21
1968	379 649	377 582	379 916	383 055	192 871	190 184	101.4	1.38
1969	384 893	382 710	385 079	386 998	194 788	192 210	101.3	1.03
1970	387 720	386 665	388 180	390 253	196 363	193 890	101.3	0.84
1971 (d)	398 100	(e) n.a.	(e) n.a.	399 500	200 600	198 900	100.4	(e) n.a.
1972	400 300	399 400	400 500	401 900	201 600	200 300	100.6	0.60
1973	403 100	401 800	403 200	404 600	202 800	201 800	100.5	0.67
1974	406 200	404 600	406 300	408 800	204 600	204 200	100.2	1.04
1975	410 100	408 300	410 000	411 500	205 900	205 600	100.1	0.66
1976 (d)	412 300	411 300	412 400	413 700	206 900	206 800	100.0	0.53
1977	415 000	413 700	415 100	416 500	208 300	208 300	100.0	0.68
1978	417 600	416 500	417 800	419 100	209 600	209 600	100.0	0.62
1979	420 800	419 200	420 700	422 200	210 700	211 600	99.6	0.74
1980	423 600	422 200	423 600	425 200	211 600	213 600	99.1	0.71
1981 (d)	427 200	425 300	427 100	428 300	212 900	215 300	98.6	0.73
1982	429 800	428 600	429 800	431 000	214 200	216 800	98.8	0.63
1983	432 800	431 000	432 800	435 100	216 100	219 000	98.7	0.96
1984	437 800	435 100	437 600	440 100	218 400	221 700	98.5	1.14
1985	442 800	440 100	442 500	444 600	220 700	223 900	98.6	1.02
1986 (d)	446 500	444 600	446 400	448 200	222 500	225 700	98.6	0.82
1987	449 200	448 000	449 000	449 800	223 100	226 700	98.4	0.35
1988	451 100	450 000	451 200	452 800	224 500	228 300	98.3	0.66
1989	455 300	452 900	455 400	458 400	227 400	231 000	98.4	1.24
1990	462 200	458 500	461 800	464 500	230 400	234 200	98.4	1.33
1991 (n)	466 800	464 600	466 700	468 500	232 100	236 300	98.2	0.85
1992	469 800	468 500	469 700	471 000	233 200	237 700	98.1	0.54
1993	471 600	470 800	471 800	472 500	233 800	238 700	97.9	0.32
1994	472 900	472 400	472 900	473 400	234 400	239 400	97.7	0.19
1995	473 700	473 400	473 900	474 200	234 200	240 000	97.6	0.18
1996 (d)	474 600	474 300	474 500	474 200	234 200	240 100	97.5	0.01

(a) Prior to 1966 excludes tribally born Aborigines. (b) Number of males per 100 females. (c) The rate of increase during the 12 months to 31 December or, in the years prior to 1936, the average (compound) rate of increase during the previous 5 years. (d) Census year. (e) Not available due to change in series.

Marriages and divorces

Marriages

Marriage is a legal contract, but it also has profound religious and cultural significance. There were 2,654 marriages registered in Tasmania during 1996. Tasmania's crude marriage rate for 1996 was 5.6 per 1,000 of mean population, the lowest rate since 1895 and the second lowest ever recorded.

Although the marriage rate has generally declined, and the incidence of divorce and de facto relationships (especially among younger people) has increased over the past 20 years, 89% of Tasmanian couples counted in the 1996 Census said that they were married. Associated with changes in living arrangements has been an increase in the age at first marriage. There has also been a trend towards civil rather than religious marriage ceremonies.

Age at marriage

Since the mid-1970s there has been a move towards fewer marriages each year. In addition, the age of people in first marriages has steadily become older.

The median age (the age where there are as many people marrying above the age as there are people marrying below it) at first marriage in Tasmania in 1995 was 26.8 years for men and 24.8 years for women (compared with 22.8 years for men and 20.5 years for women in 1972).

The difference between men and women in median age at first marriage has consistently been over two years.

The median age at marriage varies according to previous marital status. For divorcees remarrying in 1995, the median age at remarriage was 41.5 years for men and 37.9 years for women.

The move towards later marriage is clear when the ages at marriage are compared between 1973 and 1995. In 1973, 38% of all brides were less than 19-years old, whereas in 1995, only 1% of all brides were in this age group. Conversely, in 1973, 8% of all brides were aged between 25 and 29 years, whereas in 1995, 28% of all brides were in this age group.

A similar pattern emerges for bridegrooms. In 1973, 66% of all bridegrooms were less than 25-years old, whereas in 1995, only 23% of all bridegrooms were in this age group. Conversely, in 1973, 24% of all bridegrooms were aged between 25 and 34 years, whereas in 1995, 50% of all bridegrooms were in this age group.

Marriage ceremonies

There has been a shift from religious towards civil marriage ceremonies. Although almost half of the 2,654 Tasmanian weddings in 1996 were performed by ministers of religion, the proportion has steadily declined, from 85% in 1973 to 48.6% in 1996. Most of this shift occurred in the 1970s and can be attributed to the Commonwealth Government's introduction, in 1973, of authorised private civil celebrants to provide an alternative to religious ceremonies (conducted by a minister of religion registered as an authorised celebrant), and State Registry weddings.

In 1996, 71% of all Tasmanian religious weddings were performed by ministers of the Anglican, Catholic or Uniting churches. This is broadly consistent with the incidence of these denominations in the population. Of the 1,290 marriages performed by ministers of religion in 1996, 421 (33%) were in the Anglican Church, 325 (25%) were in the Catholic Church and 173 (13%) were in the Uniting Church.

In 1995, 37% of the 2,840 weddings involved remarriage for one or both partners (94% of these involved at least one divorced person).

**MEDIAN AGE OF BRIDES AND BRIDEGROOMS,
TASMANIA**

	1990 years	1995 years
Brides		
Never married	23.6	24.8
All brides	25.3	26.6
Bridegrooms		
Never married	25.9	26.8
All bridegrooms	27.9	28.9

Source: ABS catalogue no. 3311.6

MARRIAGE, CATEGORY OF CELEBRANT

Celebrant	Tasmania		Australia
	1973 %	1996 %	1996 %
Ministers of Religion (a)			
Anglican	37.3	15.9	12.0
Baptist	2.6	4.3	1.7
Catholic	20.5	12.2	18.1
Churches of Christ	0.6	0.7	1.0
Lutheran	n.a.	0.2	1.0
Orthodox	n.a.	0.5	2.7
Presbyterian	4.4	1.0	1.3
Uniting Church	n.a.	6.5	7.8
Other	19.8	7.3	7.6
Total	85.1	48.6	53.2
Civil celebrants			
Official registrars	14.9	4.5	8.2
Other civil celebrants	..	46.9	38.5
Total	14.9	51.4	46.8
All celebrants	100.0	100.0	100.0

(a) Under authority of the *Australian Marriages Act 1961*.

Source: ABS catalogue nos. 3306.0, 3311.6

Divorces

Under the *Family Law Act 1975*, the only ground on which a divorce may be granted is that of irretrievable breakdown of the marriage. This ground needs to be established by the fact that the husband and wife have lived apart for 12 months or more, where there is no reasonable likelihood of reconciliation.

There were 1,279 divorces registered in Tasmania in 1995, compared with 1,544 registered in 1994. The crude divorce rate of 2.7 divorces registered for every 1,000 people was the lowest since 1990.

Age distribution

Over the past 6 years, the highest divorce rate for males has most frequently been in the 35–39 year age group, being 14.9 per 1,000 in 1995. From 1990 to 1991, the highest divorce rate for females has been in the 25–29 year age group. But in 1992 the 30–34 year age group had the highest rate, and from 1993 to 1995, the 35–39 year age group had the highest rate, being 14.3 per 1,000 in 1995.

DIVORCES REGISTERED IN TASMANIA

	1990	1994	1995
Divorces granted	1 170	1 544	1 279
Crude divorce rate (per 1,000 population)	2.5	3.3	2.7
Median duration of marriage (years)	10.2	12.1	11.2
Median interval between marriage and final separation (years)	7.6	8.8	8.3
Divorces involving children			
Number	721	939	n.a.
Percentage of total divorces	61.6	60.8	n.a.
Average issue	2	2	n.a.
Applicant			
Husband	448	486	410
Wife	654	898	721
Joint	68	160	148

Source: ABS catalogue no. 3311.6

Divorces involving children

The proportion of divorces involving children has fluctuated in recent years, rising to 64% of all divorces registered in 1996 after having fallen to 56.5% of all divorces in 1991; this was the lowest proportion of divorces involving children since the introduction of the *Family Law Act* in 1976.

Previous marital status

In 1994, previously divorced husbands accounted for 16.8% of divorcees, compared to the 15.6% recorded in 1990. In 1994, previously divorced women made up 15.9% of divorcees, an increase on the 1990 figure of 15.6%.

In 1994, 82.4% of husbands and 82.7% of wives were divorcing from their first marriage. In 1990 these figures were 83.3% and 82.7% respectively.

The 1996 Census in Tasmania

Australia's thirteenth national Census of Population and Housing was held on Tuesday 6 August 1996. The census is the largest and most expensive collection undertaken by the Australian Bureau of Statistics.

The census management unit (CMU) had responsibility for the distribution and collection of census forms to every person in Tasmania. The unit's responsibilities also included media liaison and administrative tasks such as the recruitment and payment of field staff. The 5 field managers in Tasmania were responsible for secure delivery and collection of census forms to and from every household in their field management area, and the recruitment, training, supervision and administration of field staff.

Field staff

In Tasmania the 1996 Census provided temporary employment for approximately 1200 field staff. Census collectors faced numerous challenges including the remoteness of many dwellings and Tasmania's wintry weather conditions. Threatening dogs, horses, goats and various other farm animals, not to mention adverse road conditions and vehicle breakdowns, were just some of the difficulties faced by them. Four-wheel drive vehicles and good local knowledge

were important requirements in particularly rugged and remote regions of Tasmania.

Field challenges

Special arrangements were made to include people in remote locations. For example, a scheduled helicopter flight was used to deliver census forms to lighthouse keepers on Maatsuyker Island. Public relations campaigns and special collection procedures were used for people such as commercial fishermen and bushwalkers, who would not be spending census night in a normal dwelling.

Census night coincided with the sailing of the *Spirit of Tasmania* from Devonport to Melbourne, necessitating special collectors to deliver and collect census forms from the passengers and crew while crossing Bass Strait.

Australian expeditioners on Macquarie Island, which is a part of Tasmania, received census materials from the supply ship, *Aurora Australis*, on one of its last voyages of the preceding summer. Australian expeditioners in Antarctica were included in the census and forms were delivered to Mawson, Casey, and Davis bases in the same way. Completed forms were returned to Hobart, where the *Aurora Australis* is based, on the first scheduled voyage in the spring.

Religion

Religious affiliation by Tasmanians appears to have decreased in recent years. Of those replying, the 1996 Census shows that just over 81% of the population were adherents of religious groups compared with almost 92% in 1976. This trend is also evident in Australia. In 1976, 90% of the Australian population were affiliated with various religions while in 1996 this had fallen to 81%.

The Anglican Church remains the largest of the Christian denominations in Tasmania, accounting for 38% of the population in 1996. The other 3 significant denominations, the Catholic Church (22%), the Uniting Church (8%) and the Presbyterian Church (3%), accounted for a further 33% of the population.

The proportion of Christians has fallen from 86.7% in 1981 to 80.3% in 1996.

Buddhists make up the largest group of non-Christian believers. There has been a marginal increase in the overall proportion of non-Christian believers between 1981 (0.3%) and 1996 (0.9%). This increase is partly due to the increase in Asian immigrants. There has been a large increase in the number of Tasmanians who are not affiliated with any religion. In 1976, 7.8% of the population professed no religious affiliation compared with 18.6% by 1996. This pattern follows Australia as a whole, but Tasmania is now higher than the Australian average (18.2%).

RELIGIOUS AFFILIATION, TASMANIA

	1986		1991		1996	
	no.	%	no.	%	no.	%
Christian						
Anglican	154 748	41.0	166 492	41.0	156 192	37.7
Baptist	8 092	2.1	9 924	2.4	9 727	2.3
Brethren	3 856	1.0	3 354	0.8	3 078	0.7
Catholic	80 479	21.3	89 496	22.1	89 156	21.5
Churches of Christ	2 046	0.5	1 621	0.4	1 681	0.4
Jehovah's Witness	2 062	0.5	2 250	0.6	2 268	0.5
Latter-day Saints	1 414	0.4	1 479	0.4	1 608	0.4
Lutheran	1 753	0.5	2 324	0.6	2 176	0.5
Orthodox	1 960	0.5	2 145	0.5	2 148	0.5
Pentecostal	1 953	0.5	3 471	0.9	3 784	0.9
Presbyterian and Reformed	12 084	3.2	13 300	3.6	13 977	3.4
Salvation Army	3 437	0.9	3 096	0.8	2 866	0.7
Seventh Day Adventist	1 413	0.4	1 215	0.3	1 163	0.3
Uniting Church (a)	36 724	9.7	38 612	9.5	34 901	8.4
Other Protestant	3 034	0.8	346	0.1	889	0.2
Other Christian	9 737	2.6	6 591	1.3	6 854	1.7
Total Christian	324 792	86.2	345 716	85.2	332 468	80.3
Non-Christian						
Buddhism	438	0.1	713	0.2	1 014	0.2
Islam	569	0.2	620	0.2	807	0.2
Hinduism	305	0.1	442	0.1	444	0.1
Judaism	160	0.0	194	0.0	167	0.0
Other religions	495	0.1	703	0.2	1 229	0.3
Total non-Christian	1 967	0.5	2 672	0.7	3 661	0.9
Other groups						
Inadequately described	2 379	0.6	1 891	0.5	1 279	0.3
No religion	47 852	12.7	55 326	13.6	76 859	18.6
Total other groups	50 231	13.3	57 217	14.1	78 138	18.9
Total	376 990	100.0	405 605	100.0	414 267	100.0
Not stated (b)	59 363	n.a.	47 232	n.a.	44 327	n.a.
Overseas visitors	n.a.	n.a.	n.a.	n.a.	1 065	n.a.
Total persons	436 353	n.a.	452 837	n.a.	459 659	n.a.

(a) The Uniting Church was formed in 1978 from members of the Congregational, Methodist and Presbyterian churches. (b) 'Not stated' is excluded from calculations of percentage.

Source: 1986, 1991 and 1996 Census of Population and Housing

1996 Census developments

The 1996 Census initiated a number of developments and innovations in the following areas.

Mapping

The 1996 Census used a computer-based mapping system for the first time. Electronic mapping and digital map data supplied by the Public Sector Mapping Agencies ensured greater accuracy and currency of information.

The digital map base was used in all phases of the census. It provided collectors in the field with maps during the actual collection phase, the geographic framework by which census field areas are designed in the development stage and a source for mapping data for the various output systems and packages for the 1996 Census in the dissemination stage.

Collection management

For the first time census field managers were provided with computers in their own homes. Linked to a network, this enabled regular and consistent communications between field managers and office staff. The system significantly reduced the clerical workload of field managers compared to previous censuses.

Processing

For the first time, all census processing and tabulation work utilised microcomputers linked through a local area network.

Previously data had been processed using mainframe computers. The enhanced speed and general user-friendliness of microcomputers has ensured that census data are available earlier than was possible from previous censuses.

Census output

The National Census of Population and Housing provides information on many aspects of Australians and their society. This information is in great demand by business, and government, as well as social, economic, and education organisations. The use of computer-based tabulation systems and output packages provide a timely and flexible service for these organisations.

Users are able to gain access to census data through a number of means. Publications provide perhaps the most convenient method, but detailed analyses require more sophisticated options: packages such as CDATE and Keydata enable users to have direct access to census information on their own computers; the Internet is becoming increasingly important for access to and dissemination of census information; and individual consultancy services are available to users with special needs.

SUMMARY OF POPULATION AT SELECTED CENSUS DATES, TASMANIA (a), (b)

		At 30 June							At 6 August 1991	At 6 August 1996
	Unit	1933	1947	1954	1961	1971	1981	1986		
Persons										
Males	no.	115 097	129 244	157 129	177 628	196 442	208 641	216 480	223 755	226 338
Females	no.	112 502	127 834	151 623	172 712	193 971	210 316	219 873	229 082	233 321
Total	no.	227 599	257 078	308 752	350 340	390 413	418 957	436 353	452 837	459 659
Masculinity (c)	no.	102	101	104	103	101	99	98	98	97
Age distribution (years)										
0-15	no.	73 030	77 483	102 171	123 331	129 307	116 942	114 843	114 190	111 489
0-15	%	32.1	30.1	33.1	35.2	33.1	28.0	26.3	25.2	24.3
16-64	no.	138 515	159 925	183 230	200 001	230 069	261 151	275 058	286 726	290 465
16-64	%	60.9	62.2	59.3	57.1	58.9	62.3	63.0	63.3	63.2
65 and over	no.	16 054	19 670	23 351	27 008	31 037	42 540	46 452	51 921	56 640
65 and over	%	7.0	7.7	7.6	7.7	7.9	9.9	10.6	11.5	12.3
Religion										
Church of England	no.	105 228	123 158	147 407	159 101	169 089	151 207	154 748	166 492	156 192
Methodist	no.	26 470	33 358	38 236	42 236	42 173	19 906	—	—	—
Catholic (d)	no.	33 189	39 844	53 042	63 993	77 250	78 143	80 479	89 496	89 156
Presbyterian	no.	13 194	12 644	15 607	16 757	17 281	11 575	12 084	13 300	13 977
Baptist	no.	4 666	5 374	6 293	7 227	8 039	7 965	8 092	9 924	9 727
Churches of Christ	no.	1 892	2 039	2 267	2 507	2 500	2 110	2 046	1 621	1 681
Salvation Army	no.	1 142	1 612	1 815	2 316	3 176	3 202	3 437	3 096	2 866
Uniting Church (e)	no.	—	—	—	—	—	17 668	36 724	38 612	34 901
Other Christian	no.	5 509	6 179	10 395	13 204	20 753	23 848	25 951	22 989	23 968
Total Christian	no.	195 253	228 215	279 487	311 534	344 395	317 414	324 792	345 719	332 400
Non-Christian	no.	87	173	256	268	561	1 263	1 967	2 669	3 661
Indefinite	no.	373	797	796	1 766	993	11 162	2 292	1 845	1 279
No religion	no.	159	506	516	775	20 221	36 222	47 852	55 372	76 859
Not stated	—	31 727	27 387	27 697	35 997	24 243	52 896	59 363	47 232	44 327
Marital status										
Never married (f)	no.	61 009	53 912	54 890	58 039	65 213	80 067	87 728	93 421	101 750
Married (g)	no.	86 014	114 625	139 801	157 110	181 855	197 069	204 632	209 745	203 973
Widowed	no.	10 954	12 933	14 030	15 563	18 621	21 362	22 241	23 185	24 953
Divorced	no.	416	1 319	2 002	2 329	3 401	10 855	15 214	19 038	24 512
Not stated	no.	616	918	577	(h)	(h)	(h)	(h)	(h)	(h)
Birthplace										
Australia	no.	215 213	247 379	282 491	317 478	350 150	371 624	386 885	396 313	394 774
New Zealand	no.	1 201	1 030	1 112	1 128	1 550	2 421	2 763	3 468	3 563
United Kingdom/Ireland	no.	9 588	7 123	14 113	16 741	22 513	23 289	23 226	24 251	23 103
Netherlands	no.	11	13	2 340	3 556	3 183	3 008	2 973	2 959	2 687
Germany	no.	238	171	1 794	2 223	2 009	1 936	1 982	2 030	2 015
Italy	no.	92	64	974	1 536	1 485	1 343	1 259	1 334	1 233
Other European	no.	334	325	4 535	5 789	6 184	5 530	5 491	5 456	5 194

(a) Tribally born Aborigines excluded from census data prior to 1966. (b) As recorded. Not adjusted for under-enumeration. (c) Number of males per 100 females. (d) Includes Catholic and Roman Catholic. (e) The Uniting Church was formed in 1978 from members of the Congregational, Methodist and Presbyterian churches. (f) 15 years and over. (g) Includes separated not divorced. (h) Marital status was allocated where this information was not stated.

FURTHER READING

ABS publications

Australian Demographic Statistics (3101.0)

Births, Australia (3301.0)

Causes of Death, Australia (3303.0)

Deaths, Australia (3302.0)

Demography, Tasmania (3311.6)

Estimated Resident Population by Age and Sex: States and Territories of Australia (3201.0)

Hobart A Social Atlas (2840.6)

Marriage and Divorces, Australia (3310.0)

Population Statistics, Tasmania (3204.6)

Projections of the Populations of Australia, States and Territories (3222.0)

Social Indicators, Australia (4101.0)

Tasmania's Young People, 1991 (4123.6)

1991 Census Hobart Suburbs (2791.6)

1991 Census Launceston Suburbs (2792.6)

1991 Census Burnie and Devonport Suburbs (2793.6)

1991 Census Restructured Local Government Areas (2795.6)

1991 Census Urban Centres and Localities, Tasmania (2794.6)

1996 Census Selected Characteristics for Statistical Local Areas, Tasmania (2015.6)

CHAPTER 8

Labour



Photo: The Mercury

The huge dome which covers the foyer of the Forestry Tasmania building in Hobart is made from Tasmanian oak and features 872 panes of green laminated glass.

During the early and mid-1990s, until the end of 1996, Tasmania had the highest unemployment rate of any of the Australian States. Throughout 1993, the unemployment rate was above 12%, peaking at 12.9% in July and August 1993. For the first 8 months of 1994 the unemployment rate fell. However, for the last part of 1994 unemployment increased and peaked at 11.1% in December 1994 and January 1995, after which it fell until July 1995 to 9.5%. For another two months it stayed at 9.5% and thereafter increased until it peaked at 10.7% in July and August 1996. By December 1996 the unemployment rate was 10.6%.

This extended period of high unemployment was unique in Tasmania's history, except for the Great Depression of the 1930s. From World War II until the 1980s, Tasmania had low levels of unemployment. At times, Tasmania had a labour shortage and encouraged European migrants to

work on projects such as Hydro-Electric Commission schemes.

Prior to 1990 in Tasmania unemployment exceeded 10% only from mid-1982 until late 1984. Briefly at the end of 1988 and the beginning of 1989 unemployment equalled 10.0%.

The period around the middle of the 1990s saw continuing major changes in the Tasmanian economy and the workforce, which have largely matched changes in the Australian economy. One important change has been the emergence of enterprise and workplace bargaining and the move away from centralised determination of wages and conditions. While this sometimes resulted in increased productivity, it often led to the shedding of jobs.

In the mid-1990s women played a larger part in

the workforce than at any time previously in Tasmania. While in the late 1970s the female participation rate was approximately 41%, in 1996 the female participation rate averaged slightly more than 50.0%.

Because much of Tasmania's economy — and hence labour market — was trade oriented, such things as the value of the Australian dollar, the US dollar and the Japanese yen influenced Tasmania's employment and unemployment.

Other factors also influenced the Tasmanian labour market. For example, by the mid-1990s, Tasmania had few, if any, head offices for significant national or multi-national companies. Accordingly, one of the possible reasons for Tasmania's stagnant employment was that important parts of the economy such as banking and insurance reduced their Tasmanian staff in the years up to and including 1996. Sometimes this was because of major changes in national business' structure and operation, and improvements in communication. These developments have resulted in the transfer of administrative or backup operations to the mainland. Men and women in their 40s and 50s have often been the victims of these head-office relocations.

The role of Tasmanian manufacturing industry as an important employer has changed in the 1990s compared to the 1980s. Usually the larger manufacturing firms required fewer but more highly trained staff, and fewer apprentices.

Added to these changes in the private sector has been a changing view of the role of State Governments up to and including 1996. In the 1980s Tasmanian State Governments considered themselves as significant providers of jobs and economic growth. In the 1990s this changed: State Governments saw themselves as having a somewhat diminished role, concentrating instead on the effective and efficient provision of 'core' services. This means that some activities previously undertaken, such as road and bridge construction, were not viewed as integral to State Government functions. Accordingly, the State Government's workforce was reduced. Private enterprise, with its different cost structures and performance measures, often employed fewer employees when undertaking comparable tasks.

The Labour Force

In December 1996 there were 220,700 Tasmanians, or 59.8% of the State's working age civilian population, in the labour force (either working or looking for work).

Participation in the labour force

Historically, the Tasmanian labour force participation rate has been lower than the national average. Throughout the 1990s up until the end of 1996, there was a difference of about 3 percentage points between the Tasmanian and the Australian participation rates. In December 1996, when the Australian participation rate was 63.6%, the Tasmanian participation rate was 59.8%.

Often there is a psychological element to the participation rate; some people will actively seek work only if they believe it is worthwhile to do so. Thus, an increase in the participation rate is sometimes a leading indicator of employment growth. Similarly, a decrease in the participation rate is sometimes a leading indicator of employment decline.

In the late 1970s, Tasmanian males had a participation rate of nearly 79%. In the mid-1980s, the male participation rate was around 75%. However, by 1992 the participation rate had decreased to approximately 72%. In September and October 1995 it had dipped to a record low of 69.6%. In December 1996 it was 70.3%.

There were a number of reasons for this decline in the male participation rate. Principally these were job shedding due to mechanisation, the relocation of many positions to mainland States, and the different skills needed, which often disadvantaged older workers. Some in this latter group took early retirement. Also significant was a State Government policy of leaving the provision of 'non-core' services to private enterprise and offering incentives for early retirement to many of its employees.

For Tasmanian females, there has generally been an increase in the participation rate since the late 1970s. Then, the female participation rate averaged about 41%. In the mid-1980s, the participation rate was approximately 43%. From 1990 to the end of 1996, it averaged about 49%. Until December 1996, the maximum female participation rate was 51.1%, in November and December 1995.

During the 1980s, male employment was at a minimum of 105,400 in early 1983, and a maximum of 119,900 in December 1989. In the 1990s, the number of employed males peaked at 120,600 in June 1990. This then declined to a minimum of 109,700 in August 1993. In December 1996, the number of employed males was 113,700.

For females in the 1980s there was an overall increase in employment from around 60,000 in 1980 to a peak of 80,800 in December 1989, a rise of approximately 34%. From the beginning of 1990 through to the end of 1994, female employment was usually between 80,000 and 82,000. During 1995 female employment markedly increased to reach a peak of 87,300 in December 1995. During 1996, female employment declined. In December 1996, it was 83,800.

During the 1990s up until the end of 1996, the number of part-time workers in Tasmania rose, with an average of approximately 46,000 in 1990, 53,300 in 1994, 54,500 in 1995, and 57,000 in 1996.

For males, there was an increase in the number of part-time workers from just under 10,000 in 1990 to 12,800 in 1994, 13,500 in 1995, and 14,200 in 1996. For females, there has also been an increase in the number of part-time workers from approximately 35,500 in 1990 to 40,400 in 1994, 41,000 in 1995 and 42,600 in 1996.

Public sector employment

Total employment in the public sector in Tasmania has been declining since 1988–89, when employment reached almost 53,000. In 1995–96 the number employed was approximately 45,500.

In the Commonwealth Government sector, employment peaked in 1985–86 at approximately 10,300. During the 1990s employment generally declined. In 1995–96 employment was approximately 7,800. The State Government sector employment peaked at approximately 40,000 in 1988–89. In 1995–96 employment was approximately 33,500. Local government employment has been approximately 4,000 since 1990–91.

Employment by industry

The largest industry division in the Tasmanian economy in the period 1992–96 was the retail trade sector. In 1996 its average employment was 32,200, up from an average employment of 27,800 in 1992. The next largest industry, manufacturing, employed an average of just under 25,000 in 1996. This was less than the average figure of 26,400 for 1992. The combined category of electricity, gas and water supply (with the HEC as the principal employer) has had reduced employment numbers since the middle 1980s, when approximately 6,300 were employed. In 1996 average employment in this category was approximately 1,800.

INDUSTRY EMPLOYMENT DISTRIBUTION, TASMANIA (%)

Industry	Average(a) 1992	Average(a) 1994	Average(a) 1996
Agriculture, Forestry and Fishing	15.6	17.0	17.3
Mining	2.6	1.6	2.4
Manufacturing	26.4	23.6	24.9
Electricity, Gas and Water Supply	3.2	2.3	1.8
Construction	12.3	15.0	12.8
Wholesale Trade	9.9	9.5	10.2
Retail Trade	27.8	31.3	32.2
Accommodation, Cafes and Restaurants	9.2	10.4	10.4
Transport and Storage	7.1	6.7	7.3
Communication Services	3.8	2.5	2.7
Finance and Insurance	6.5	5.1	5.0
Property and Business Services	10.1	11.5	11.9
Government Administration and Defence	11.4	12.6	14.1
Education	14.1	15.4	14.3
Health and Community Services	20.9	19.3	21.6
Cultural and Recreational Services	4.0	3.7	4.6
Personal and Other Services	7.5	7.0	7.2
Total all industries	192.0	194.5	200.5

(a) The average is the average of the February, May, September, and November figures.

Source: Unpublished ABS Monthly Labour Force Survey.

Labour Force Definitions

TREND SERIES

Figures given in this chapter are monthly *trend estimates*, unless otherwise indicated.

Trend estimates 'smooth out' erratic movements in the data. The *trend series* reflects the general drift or underlying path of the data. The monthly series that are 'smoothed', or averaged out, are *seasonally adjusted series*.

Seasonally adjusted series remove known seasonal and calendar-related influences. Examples are the effects of Easter and Christmas on employment and retail sales. However, these *seasonally adjusted series* can still show erratic movements, due to irregular influences such as strikes. These erratic movements may be 'smoothed' by averaging figures over a period of months; the resultant series is known as a *trend series*.

LABOUR FORCE

The labour force is defined as the total number of employed plus the total number of unemployed.

PERSONS NOT IN THE LABOUR FORCE

Many people are neither employed nor unemployed, according to ABS categories. Examples of people in this category are retirees, those who choose not to work, and those who are unable to work. These groups form an important part of the labour force framework and contain people who are known collectively as persons not in the labour force.

PARTICIPATION RATE

The participation rate is the proportion of the population aged 15 and over who are in the labour force. For example, the participation rate for females is derived by adding the number of females employed to the number of females unemployed and dividing this number (the female labour force) by the total number of females in the population

and expressing this as a percentage

EMPLOYMENT

A person aged 15 and over is considered employed if, during the week of the Labour Force Survey, they worked for one hour or more for pay, profit, commission or payment in kind in a job, business, or on a farm.

UNEMPLOYMENT

Unemployed persons are persons aged 15 and over who were not employed during the week of the Labour Force Survey, and:

- had actively looked for full-time or part-time work at any time in the four weeks up to the end of the reference week and were either:
 - available for work in the reference week, or would have been available except for temporary illness (i.e. lasting for less than 4 weeks to the end of the reference week);
 - waiting to start a new job within 4 weeks from the end of the reference week and would have started in the reference week if the job had been available then; or
- were waiting to be called back to a full-time or part-time job from which they had been stood down without pay for less than 4 weeks up to the end of the reference week (including the whole of the reference week for reasons other than bad weather or plant breakdown).

For more detail see Explanatory Notes in ABS catalogue no. 6202.0

Hours worked

The average number of hours worked in Tasmania during 1996 for males was 38.9, while for females the figure was 26.7 hours.

AVERAGE HOURS WORKED, TASMANIA

Employed	1990 (a) hours/week	1996 (a) hours/week
Males		
full-time	40.9	42.2
part-time	14.8	15.1
total	38.9	38.9
Females		
full-time	36.9	37.8
part-time	14.6	15.3
total	27.0	26.7
Persons		
full-time	39.8	40.9
part-time	14.7	15.2
total	34.1	33.7

(a) Average of figures from: February, May, August, and November.

Source: Unpublished ABS Monthly Labour Force Survey data

Throughout the 1990s up until and including 1996, Tasmanian workers generally experienced a decline in the number of average hours of overtime worked per employee, down from 1.3 in 1990 to 0.8 in 1996. There was also a decline in the number of hours of average weekly overtime per employee working overtime, and a declining percentage of employees working overtime.

OVERTIME, TASMANIA

	Average hours per employee	Average weekly overtime per employee working overtime	Percentage of employees working overtime
1990	1.3	7.0	18.7
1991	1.1	7.0	15.4
1992	1.0	6.7	15.2
1993	1.0	7.0	14.3
1994	1.0	6.7	15.1
1995	0.9	6.2	14.8
1996	0.8	5.9	14.3

Source: ABS catalogue no. 6354.0

Unemployment

In July and August 1993 Tasmania's unemployment rate reached a post-World War II record maximum of 12.9%.

There were many reasons for this high unemployment rate. In part it was due to structural changes in the Australian and Tasmanian economies. Part of this related to changes in the international economy, one effect of which was that Tasmania exported less, particularly aluminium, woodchips and wool.

Also important were changes in the Tasmanian economy. In the private sector many firms restructured by shedding labour and/or moving head office operations to the mainland. At the same time the State Government pursued a vigorous policy of rationalising its services.

After August 1993, the unemployment rate fell for a year to a low of 10.6% then climbed to a high of 11.1% in December 1994 and January 1995 before reaching another low of 9.5% in July, August and September 1995. In 1996, unemployment peaked at 10.7% in July and August. In December 1996, the unemployment rate was 10.6%.

The number of unemployed Tasmanians steadily increased in the 1990s from approximately 19,000 in January 1990 to a peak of 28,400 in August 1993. It reached a relative minimum of 23,200 a year later in August 1994. By December 1994 and January 1995 the number of unemployed had risen again, to 24,500. By August 1995 the number of unemployed had fallen to just under 21,000. A new peak of 24,100 was reached in July 1996. In December 1996, the number of unemployed was approximately 23,300.

For much of the 1990s until mid-1994, the Tasmanian unemployment rate was between 1 and 1.5 percentage points higher than the Australian unemployment rate. At that point the gap widened: during the second half of 1996, the difference averaged around 2 percentage points.

In the 1990s (up until the end of 1996) male unemployment in Tasmania peaked at 17,900 in July and August 1993. Thereafter, it fell to 13,300 in September and October 1995. During 1996 the male unemployment averaged approximately 14,500.

In the 1990s (up until the end of 1996) female unemployment in Tasmania peaked at 10,500 in August 1993. It fell to a low of 7,300 in July 1995 and rose to an average of 9,400 for the second half of 1996.

Labour mobility

In February 1996, 77.9% of Tasmanians employed (160,100 out of 205,700) had been in their current job for one year or more.

Of the 45,500 who had been in their current job for less than one year, 43.4% (19,800) had had no previous job during the preceding year. Of the 25,700 who had had a previous job during

LABOUR MOBILITY, February, 1996

Length of time in the same job	Tasmania		Australia		Difference (a) % points
	no.	%	no.	%	
Under 1 year					
under 3 months	17 700	8.6	740 400	8.9	-0.3
3 and under 6 months	9 400	4.6	463 900	5.6	-1.0
6 and under 12 months	18 400	9.0	737 600	8.9	0.1
total	45 500	22.1	1 941 800	23.5	-1.3
1 and under 2 years	21 500	10.5	1 007 600	12.2	-1.7
2 and under 3 years	18 300	8.9	769 200	9.3	0.4
3 and under 5 years	25 500	12.4	1 016 400	12.3	0.1
5 and under 10 years	37 800	18.4	1 618 500	19.5	-1.2
10 years and over					
10 and under 20 years	35 000	17.0	1 249 900	15.1	1.9
20 years and over	22 100	10.7	676 100	8.2	2.6
total	57 100	27.7	1 926 000	23.3	4.5
Total	205 700	n.a.	8 279 600	n.a.	n.a.

(a) A positive percentage points difference means Tasmania has proportionally more of the workforce in a particular category than Australia.

Source: ABS catalogue no. 6209.0

the year, 40.9% (10,500) had changed industry, and 27.6% (7,100) had changed occupation.

In February 1996, proportionally more Tasmanians than Australians had held their current job for 10 years or more, 27.7% compared to 23.3%.

Persons not in the labour force

In September 1996 in Tasmania there were 102,900 persons, or 31.5%, not in the labour force out of a civilian population of 326,900 aged 15 to 69. Of these 102,900 persons, 27.2% (28,000) were marginally attached to the labour force.

PERSONS NOT IN THE LABOUR FORCE, TASMANIA, SEPTEMBER 1992-96

	Marginally attached (a)	Not marginally attached	Total
1992	24.2	81.5	105.7
1993	27.8	75.0	102.8
1994	29.2	76.5	105.7
1995	25.9	74.9	100.8
1996	28.0	74.9	102.9

(a) See definitions given in this chapter for 'with marginal attachment to the labour force'.

Source: ABS catalogue no. 6220.0

The main reasons for males who were marginally attached to the labour force not actively looking for work were attendance at an educational institution, 37.3% (3,000 out of 8,000) and own ill health or physical disability, 29.3% (2,400 out of 8000)

The main reasons for females not actively looking for work who were marginally attached to the labour force were child care, 41.2% (8,200 out of 20,000), or because they were attending an educational institution, 9.6% (1,900 out of 20,000).

PERSONS NOT IN THE LABOUR FORCE, TASMANIA, SEPTEMBER, 1996

	Marginally attached	Not marginally attached	Total
Males	8.0	26.6	34.7
Females	20.0	48.2	68.2
Total	28.0	74.9	102.9

Source: ABS catalogue no. 6220.0

Underemployed workers

Underemployment can be defined in terms of 2 categories within the Australian Labour Force Framework:

- part-time workers who indicate that they would prefer to work more hours. These are referred to as underemployed part-time workers; and
- full-time workers who did not work full-time hours (i.e. did not work 35 hours or more) in the reference week for economic reasons. Economic reasons comprise short time, insufficient work and stood down for reasons other than bad weather and/or breakdown. These are referred to as underemployed full-time workers.

In September 1996 in Tasmania a survey found that 9.5% (19,100 out of 200,100) of those

employed were involuntary part-time workers. Of these, 89.9% (17,100 out of 19,100) were usually part-time workers.

The average number of preferred extra hours (were extra work was wanted) to be worked in the week prior to the survey was 16.1 hours. The quantum of extra hours wanted to be worked was 233,500 hours. This was the equivalent of approximately 6,670 additional full-time jobs (assuming 35 hours/week as a full-time equivalent).

Teenage unemployment

In 1996, the Tasmanian teenage unemployment rate averaged 21.7% (measured in original series). This compared to the Australian rate of 20.8%.

This slightly higher unemployment rate in Tasmania may have been due to the overall higher unemployment rate, a reduced number of apprenticeships and traineeships in larger firms, which had traditionally been employers of teenagers, and changes in the Tasmanian economy. These changes have meant that employers have often found it potentially more profitable to train existing staff rather than recruit teenage staff.

Employment, education and training

The quality of Australia's future workforce skills depends on the quality of the education provided to young people, and on the development and upgrading of skills in the workforce. For a number of reasons, the skills required in the Tasmanian workforce in the second half of the 1990s continued to undergo significant change. These changes included the continuing application of computers and other forms of technology in the manufacturing and service industries, and continuing high expectations of consumers in the various services industries, including tourism-related industries. Further changes will inevitably occur because of technological development and changes to the Tasmanian, Australian and international economies.

Consequently, the Commonwealth and the various State Governments have sought to adjust their education and training systems to meet new requirements.

The Commonwealth Government and its employment strategies

In the August 1996 Budget, the Commonwealth announced the most significant reorganisation of labour market assistance arrangements since the establishment of the Commonwealth Employment Service (CES) 50 years ago.

The main elements of this reorganisation were:

- making the provision of labour market exchange services competitive and more effective by contracting employment placement enterprises to deliver them;
- using intensive employment assistance, provided through employment placement enterprises, to focus on getting disadvantaged job seekers into real jobs;
- providing job-search assistance for eligible job seekers; and
- establishing a new service delivery agency, which will merge the income support functions of the Department of Social Security (DSS) and some CES functions.

As well, a corporatised public employment placement provider will assume many of the responsibilities of the CES and will operate on the same basis as its private and community sector competitors.

These new arrangements will be phased in to allow full operation from December 1997.

From October 1996, there were four main categories of Labour Market Programs available.

Employer Incentives

These provide incentives for employers to employ and train eligible job seekers and to arrange placements for more disadvantaged clients through JobStart, Entry-level Training Incentives and Special Employer Support.

Enterprise and Adjustment Assistance

This provides assistance to individual job seekers, enterprises and regions.

Training for Employment

This offers assistance to job seekers to gain employment through the provision or enhancement of vocational skills which are linked to specific employment opportunities in the labour market and includes two specific programs providing English language training.

Job Seeker Preparation and Support

This helps job seekers access employment and training opportunities by addressing financial and personal difficulties which may be preventing this.

State Government employment and training schemes

The four objectives of the Tasmanian Government's Employment Opportunities Program were to:

- develop and implement State Government labour market programs designed to expand employment;
- encourage and assist the creation of employment opportunities at local and regional levels through the development of an enterprise culture;
- assist in the coordination and development of employment opportunities through the programs and services of other agencies; and
- provide policy advice to government on employment programs, matters and services.

Programs operated by the Employment Opportunities Branch of Tasmania Development and Resources (TDR) during 1996 were Tas Jobs for Youth, Local Employment Initiatives, Business Advisers for Rural Areas, and Tasmanian Trainee and Apprentice Incentive Scheme.

TAS JOBS FOR YOUTH was introduced on 1 July 1992 to provide a wage subsidy to employers who created new and additional positions in their businesses and who employed young people aged 16–25 who had been unemployed for at least three months, and who completed appropriate training. A subsidy of \$8,000 for a full-time position and \$3,000 for a part-time position was payable over two years for positions maintained by the employer. A total of 823 grants were approved before the program was discontinued in July 1994. As at 30 June 1996, 179 grants were current.

LOCAL EMPLOYMENT INITIATIVES (LEI) is a job-creation initiative of the State Government, in partnership with local communities. Support is provided under the program to local organisations which work within their local community to generate economic activity and create jobs. In 1995–96 funding of \$400,000 was available, provided to 11 organisations State-wide by enterprise and employment creation projects.

BUSINESS ADVISERS FOR RURAL AREAS (BARA) is funded by the Commonwealth Department of Primary Industries and Energy. Administrative support is provided by the Employment Opportunities Branch of TDR. Two projects were initially approved under the program with one ceasing to operate during 1994. Funding of up to \$50,000 a year was provided to incorporated community organisations that operated in a similar manner to those supported under the States Local Employment Initiatives Program. One project was funded in 1995–96. Funding ceased in June 1997.

TASMANIAN TRAINEE AND APPRENTICE INCENTIVE SCHEME was introduced from 1 July 1994 as the Tasmanian Apprentice Incentive Scheme and provides assistance to private sector employers of apprentices and trainees. In October 1995, the scheme was extended to include trainees and was renamed. The scheme recognises a need for an appropriately trained workforce and the costs involved in such training, especially in the less productive early years. Assistance under the scheme is available in one of two ways. For employers not subject to State payroll tax, a payment of \$500 is made for each new position filled by a new apprentice or trainee. For those employers that pay payroll tax, a rebate of payroll tax is paid on all apprentice or trainee wages. This scheme is jointly administered by TDR and the State Revenue Office of the Department of Treasury and Finance. In 1995–96, 557 payments of \$500 had been made to employers.

Local Employment Initiatives Program

For more than 5 years, the Local Employment Initiatives Program (LEI) of Tasmania Development and Resources has provided a delivery mechanism for assistance to small businesses and the unemployed in their local communities.

In 1995–96, eight enterprise agencies received funding support of \$40,000 each. They were located in the Tamar Valley, the Meander Valley, the Mersey Region, Circular Head, the West Coast, New Norfolk, Burnie and Glenorchy.

The remainder of the funds, \$80,000, supported 3 innovative long-term job creation projects in conjunction with the Federally funded Working Nation program. The projects were the Eastcoast Regional Development Organisation (ERDO), Peninsula Action for Community Enterprise (PACE) and Creative Paper Mills in Burnie.

During the life of the LEI Program it has:

- served over 10,000 clients primarily those in or contemplating business start ups;
- provided assistance to over 600 new businesses, employing over 1,200 people;
- administered labour market programs or assisted entry into these programs for over 600 unemployed;
- assisted in placing over 200 others in employment in permanent unsubsidised work;
- provided access to training for over 400 people;
- established or assisted local networks of tourist operators, farmers, craftspeople and others to work together for the joint promotion of their industry;
- established or assisted local projects of community or regional importance; and
- provided inspiration and direction through Future Directions Conferences or other forums to stimulate communities and offer a vision of some of the economic and social possibilities for individuals and the communities.

Apprenticeships and traineeships

There was a slight increase in the number of apprenticeships commenced in 1995 compared with 1994, 1140 compared with 1137. There was a large increase in the number of traineeships over the same period, 1609 compared with 910.

The number of apprenticeship certificates issued fell from 791 to 683 in the period 1994–95 to 1995–96. The number of traineeship certificates also decreased over the same period from 577 to 490.

There were a number of legislative and organisational changes in the Tasmanian apprenticeship and traineeship system in the mid-1990s. *The Vocational Education and Training Act 1994* was promulgated on 1 July 1995. It rescinded the three previous Acts which administered Tasmania's vocational education and training system. It complemented national legislation on vocational education and training, and simplified the administration of legislative requirements.

The Act provided for powers and functions of industry training advisory boards, accreditation of courses, registration of training providers and approval and administration of awards. It also covered the establishment of institutes of TAFE, establishment of institute of TAFE Councils, and administration of the institutes of TAFE.

In 1995 the various Industry Training Advisory Boards (ITAB) were restructured. They provide a wide coverage of Tasmanian industries, and largely mirrored national ITABs. The new ITABs were:

- the Tasmanian Arts, Communications, Information Technology, Printing and Recreation Industry Training Board Inc.;
- the Tasmanian Automotive, Engineering and Manufacturing Industry Training Board Inc.;
- the Tasmanian Building and Construction Industry Training Board;
- the Tasmanian Community, Property and Health Services Industry Training Board Inc.;
- the Tasmanian Electrotechnology and Utilities Industry Training Board Inc.;
- the Fishing Industry Training Board of Tasmania Inc.;
- the Tasmanian Food Industry Training Board Inc.;
- the Tasmanian Forest Industries Training Board Inc.;
- the Tasmanian Light Manufacturing Industry Training Board Inc.;
- the Tasmanian Minerals and Processing Industry Training Board Inc.;
- the Public Administration, Finance and Business Services Industry Training Board Inc.;
- the Tasmanian Rural Industry Training Board Inc.;
- the Tasmanian Tourism Industry Training Board Inc.;
- the Tasmanian Transport and Distribution Industry Training Board Inc.; and
- the Tasmanian Wholesale, Retail, Associated and Personal Services Industry Training Advisory Board Inc.

APPRENTICESHIP CERTIFICATES OF COMPETENCY, TASMANIA (Vocational Education and Training Act 1994)

	Apprenticeship certificates		Traineeships	
	1994-95	1995-96	1994-95	1995-96
Primary industry	36	68	49	70
Manufacturing and engineering	391	337	79	51
Building and architecture	165	128	--	7
Business services	--	--	354	295
Personal and community services	89	81	27	19
Hospitality and tourism	110	69	68	48
Total	791	683	577	490

Source: DVET, Annual Report 1995-96

APPRENTICESHIPS AND TRAINEESHIPS, TASMANIA

	Apprenticeships	Traineeships	Total
Number commencing			
1995	1 137	910	2 047
1996	1 140	1 609	2 749
Number in training			
31 December 1995	3 193	757	3 950
31 December 1996	3 283	1 395	4 678

Source: DVET, Annual Report 1995-96

Working environment

Earnings

In Tasmania during the 1990s (up until the end of 1996) annual percentage changes in the quarterly average weekly earnings amount for Tasmanians were mostly greater than annual percentages changes in prices, as measured by the Hobart Consumer Price Index quarterly figure. In other words, there was an improvement in real wages in the period 1990 to December 1996.

In November 1996, the average weekly ordinary time earnings for full-time Tasmanian males was \$688.50 (Australian males, \$727.00). For females, the corresponding figure was \$574.20 (Australian females, \$611.90).

Wages movements

In Australia in the mid-1990s two sets of authorities regulated wages and salaries: the Australian Industrial Relations Commission (AIRC) with federal jurisdiction; and the various State tribunals. In Tasmania, the Tasmanian Industrial Commission had statutory responsibility.

Over the 12 months to December 1996, the weekly award rates of pay indexes rose by 0.7% for adult Tasmanian males and by 0.6% for adult Tasmanian females. For adult Australians, the

figures were 1.1% and 1.5%, respectively.

During the 12 months to December 1996, for full-time adult male employees in Tasmania the largest annual increase occurred in the manufacturing industry (1.5%). No pay rises in awards were recorded for the mining industry, the communication industry, and the finance, property and business services industry. For females the largest increase was recorded in the public administration and defence industry (2.9%). There were no pay rises in awards in the wholesale and retail trade industry, the communication industry, and the finance, property and business services industry.

That there were no award rates of pay increases in some industries was probably due to the prevalence of enterprise awards.

Industrial disputes

During 1996, the number of working days lost per thousand employees in Tasmania was the second lowest of the Australian States, 78, compared with 68 for Western Australia. The national average was 131.

Trade unions

The proportion of total employees in trade

unions in Australia decreased from 35.0% in August 1994 to 31.1% in August 1996. All States showed a decrease.

In 1996, Tasmania had the highest rate of trade union membership of any Australian State, 39.3%. This compared with 42.9% in August 1994 and 50.5% in August 1992.

Tasmania maintained the highest proportion of trade union members to total employees for both males and females: 41.4% of male employees and 36.7% of females were trade union members. Nationally, 33.5% of male employees and 28.1% of females were trade union members.

CHANGES IN REAL WAGES, TASMANIA, 1990-1996

	Tasmanian AWE (a)(c)	Hobart's CPI (b)(c)	percentage points difference (d)
1990			
March quarter	7.3	7.2	0.1
June quarter	6.3	6.1	0.2
September quarter	6.9	5.5	1.4
December quarter	6.6	6.1	0.5
1991			
March quarter	4.4	4.2	0.2
June quarter	3.1	3.8	-0.7
September quarter	4.1	3.6	0.5
December quarter	3.0	1.8	1.2
1992			
March quarter	3.2	2.1	1.1
June quarter	4.3	1.1	3.2
September quarter	2.6	0.8	1.8
December quarter	3.2	0.6	2.6
1993			
March quarter	2.7	1.6	1.1
June quarter	2.0	2.2	-0.2
September quarter	2.7	3.2	-0.5
December quarter	4.2	3.3	0.9
1994			
March quarter	4.0	2.6	1.4
June quarter	3.2	2.7	0.5
September quarter	2.5	2.1	0.4
December quarter	2.5	2.3	0.2
1995			
March quarter	1.2	3.8	-2.6
June quarter	3.0	4.2	-1.2
September quarter	2.1	4.5	-2.4
December quarter	2.4	4.4	-2.0
1996			
March quarter	3.8	3.4	0.4
June quarter	4.2	3.0	1.2
September quarter	4.1	2.3	1.8
December quarter	5.3	1.8	3.5
Average	3.7	3.2	0.5

(a) AWE means Average Weekly Earnings of full-time adults, ordinary time earnings. (b) CPI means Consumer Price Index. (c) Annual percentage changes from one quarter to the same quarter in the previous year. (d) Calculated by subtracting the CPI figure from the AWE figure. A positive figure means an improvement in real wages.

Source: ABS catalogue nos. 6302.0 and 6401.0

FURTHER READING

ABS publications

- Australian and New Zealand Standard Industrial Classification* (ANZSIC) (1292.0)
Average Weekly Earnings, Australia (6302.0)
Award Rates of Pay Indexes, Australia (6312.0)
Employed Wage and Salary Earners, Australia (6248.0)
Industrial Disputes, Australia (6321.0)
Information Paper: Measuring Employment and Unemployment (6279.0)
Information Paper: Labour Force Survey- Measuring Teenage Unemployment (6270.0)
Introducing the Australian and New Zealand Standard Industrial Classification (ANZSIC) (1298.0)
Job Vacancies and Overtime, Australia (6354.0)
Labour Force, Australia, Preliminary (6302.0)
Labour Force, Australia (6203.0)
Labour Force Experience (6206.0)
Labour Mobility, Australia (6209.0)
Persons Not in the Labour Force, Australia (6220.0)
Tasmanian Statistical Indicators (1303.6)
Trade Union Statistics, Australia (6323.0)
Underemployed Workers, Australia (6265.0)
Working Arrangements, Australia (6342.0)

Other publications

- Department of Employment, Education, Training and Youth Affairs, *Annual Report 1995-96*
 Department of Vocational Education and Training, *Annual Report 1995-96*
 Tasmania—Development and Resources, *Annual Report 1995-96*

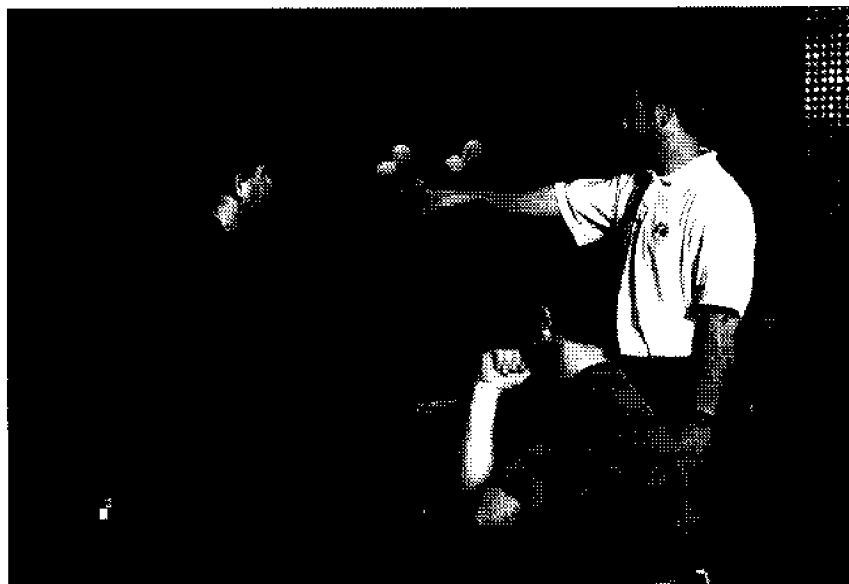
Acknowledgments

- Commonwealth Department of Employment, Education, Training and Youth Affairs
 Tasmania—Development and Resources
 Tasmanian Department of Vocational Education and Training

CHAPTER 9

Education

Photo: Australian Maritime College



The Australian Maritime College houses one of the largest flume tanks in the Southern Hemisphere. The tank, which is used to improve net design, simulates trawl net travel over the sea-bed under different conditions.

Education is the lifelong process by which people obtain knowledge, skills, attitudes, and socially valued character and behavioural traits. Commencing at birth, developed through schooling and other informal pathways of learning, education is important for occupational success, and essential for personal growth and development.

The educational and training needs of Tasmanians are serviced in a variety of ways.

The Tasmanian Department of Education, Cultural and Community Development is the core provider of compulsory education in the State. In June 1996, the Department operated 234 schools and colleges in its 7 education districts. There is, however, an important non-government sector emerging, as well as growing interest in home education as an alternative to the more traditional methods of schooling.

Technical and Further Education (TAFE) is an alternative for individuals who have left school and need vocationally oriented learning. This, together with Adult Education which provides a selection of classes primarily directed towards leisure and recreational interests, is administered by the (Tasmanian) Department of Vocational Education and Training (DVET). For those wanting to pursue academic interests within the higher education sector, the University of Tasmania and the Australian Maritime College cater specifically for such needs.

The University of the Third Age, a self-funded body, provides educational opportunities for semi-retired and retired people. It is a relatively small, informal, and enthusiastic organisation, presenting a range of subjects which depend on the availability of volunteer lecturers and student demand.

Tasmania's education and training system, like others around Australia, is subject to significant budget restraint. This budget restraint manifests itself in the examination, and wherever possible, the elimination of unnecessary levels of administration. In some cases schools have introduced user-pays fees, increased pupil to teacher ratios, reduced courses on offer, or even closed.

At the same time, reduced employment opportunities and technological changes have placed further demands on educational institutions. They have responded with curriculum changes that promote subjects with a potentially higher vocational relevance. The changing needs of society are also reflected in continuing efforts to educate people to make more effective use of increased leisure and recreation time.

Structure of schools in Tasmania

Primary and secondary schools contribute significantly to the education process, providing opportunities for further study, and laying the foundations for a future skilled workforce. Attendance at Tasmanian schools is compulsory for children aged 6 to 16 years of age.

Most school children attend government schools, although approximately one-quarter of the school-age population attends accredited non-government schools. Most non-government schools are associated with religious denominations, although others are committed to particular teaching methods or philosophies.

In the non-government sector in 1996, 38 Catholic schools were attended by 62% of the children who received non-government education. Most non-government schools are funded partly by private sources; however, those that conform to government requirements receive further State and Commonwealth funding.

Government schools are provided by, and therefore subject to, the overall administrative control of the State education system. Although funded primarily by the State government, they do receive some assistance from the Commonwealth.

The Department of Education, Cultural and Community Development aims to educate children in their local communities, and

integrate children with special needs into regular schools. Parents are however, free to choose which government school their child attends, although admission is not always guaranteed.

Primary education provides a general elementary program lasting for 7 or 8 years until Year 6. Secondary education commences at Year 7, with students following a more comprehensive curriculum. Government schools are generally co-educational, while a significant, though declining proportion of non-government schools are single-sex based. Usually primary and secondary schools are separate institutions, although in some country areas, district schools provide both levels of education. Senior secondary colleges provide the final 2 years of government school education.

Kindergarten education

Prior to commencing primary school, over 90% of children attend kindergarten classes part-time for one year. Enrolment is voluntary, with children being placed in either morning or afternoon sessions, 2 to 5 days per week. Here, children acquire learning skills and are inducted into the culture of the classroom and school.

Minimum age of entry into kindergarten is 4 years of age, on or by 1 January in the year of admission. The Department of Education, Cultural and Community Development's aim to make early childhood education available to all children, has resulted in 143 of the 145 government primary schools having attached kindergartens. In 1997, the total for government kindergarten enrolments was 6,066. Non-government kindergartens form only a minor part of total non-government school enrolment.

Recent developments

The Kindergarten Development Check (KDC) has been designed to assist early identification of any kindergarten children who may require a special intervention program, and to help teachers in the monitoring, planning and reporting process. The KDC, first introduced as a trial document in 1994, was finalised for the 1996 school year.

PRIMARY SCHOOLS, TASMANIA

	Number of schools		Student enrolments (b)		Teaching staff (c)	
	Government (a)	Non-government	Government	Non-government	Government	Non-government
1986	166	42	36 755	9 132	2 326	493
1987	166	40	36 395	9 371	2 279	494
1988	165	38	36 509	9 553	2 119	513
1989	165	38	36 857	9 977	2 149	523
1990	165	38	37 881	10 321	2 196	538
1991	163	37	37 674	10 789	2 081	545
1992	160	37	37 918	11 029	2 063	563
1993	154	36	37 380	11 218	2 127	579
1994	151	38	37 033	11 314	2 157	593
1995	150	38	36 341	11 245	2 122	592
1996	150	36	36 097	11 110	2 150	589
Change 1986–1996						
Number	-16	-6	-658	1 978	-176	96
Per cent	-9.6	-14.3	-1.8	21.7	-7.6	19.5

(a) Excludes primary schools with secondary classes (e.g. district high schools). (b) Includes primary grades in combined primary and secondary schools. (c) Full-time equivalents.

Source: ABS catalogue no. 4221.0

Primary education

Primary education is the first level of compulsory education, with age of entry to preparatory classes (Prep) being 5 years, and for Year 1, 5½ to 6 years of age. Most schools offering primary education go from the Prep year, up to and including Year 6. Within each class, all students follow a common curriculum, and each class is taught in the main, by one teacher. Designed to cater for the mental, physical, social and emotional development of children during their critical formative years, the curriculum emphasises the acquisition of basic literacy, numeracy and language skills. The school's task is to provide programs which develop the child's capacity to communicate, think and value, as well as prepare them for future educational opportunities at the secondary level.

The number of government and non-government primary schools operating in Tasmania has decreased steadily over the past 10 years. In 1996, there were 150 government primary schools, and a further 27 which were combined primary and secondary schools (district and district high schools). There were 36 non-government primary schools, 26 of which were affiliated with the Catholic Church. A further 25 non-government schools were combined primary and secondary schools.

Overall student enrolments have increased by 3% in the last decade, despite enrolments within the government primary sector having decreased to a low of 36,097 in 1996. Non-government schools have seen a significant

increase in both student and staffing numbers. During the period from 1986 to 1996, student enrolments rose by 22%, and staffing numbers by 19%. This compares to a drop of 8% in government staffing numbers.

Recent developments

The Early Literacy Support Program, initiated in 1993–94, provides intensive teacher support to improve the literacy attainment of students, to emphasise literacy within the curriculum, and to enhance teacher skills. The second stage of the Early Literacy Support Program, implemented in 1996, allows literacy resource teachers to work in partnership with Year 2 classroom teachers.

Secondary education

Secondary education is the second level of compulsory education, in which the emphasis shifts from the mastery of basic skills in literacy, numeracy and social behaviour, to a greater emphasis on individual subjects taught by specialist teachers. The minimum leaving age of 16 years generally coincides with the completion of Year 10. Almost all Tasmanian children attend some form of secondary schooling.

Entry age to secondary school is usually between 11½ and 13 years of age. The first 4 years of secondary education (Years 7 to 10 inclusive) are catered for in high schools and district high schools. All government high schools and district high schools are co-educational, with the

SECONDARY SCHOOLS, TASMANIA

	Number of schools		Student enrolments (c)		Teaching staff (d)	
	Government (a)	Non-government (b)	Government	Non-government	Government	Non-government
1986	74	27	28 473	8 327	2 473	621
1987	75	26	28 241	8 231	2 420	636
1988	75	27	28 148	8 242	2 523	640
1989	74	28	27 432	8 417	2 423	657
1990	76	28	27 408	8 709	2 350	670
1991	76	28	27 988	9 163	2 090	713
1992	76	29	27 795	9 547	2 164	742
1993	76	29	27 347	9 816	2 133	761
1994	76	30	27 028	9 984	2 050	779
1995	77	31	26 943	10 130	2 032	781
1996	76	33	26 679	10 296	2 056	800
Change 1986-1996						
Number	2	6	-1 794	1 969	-417	179
Per cent	2.7	22.2	-6.3	23.7	-16.9	28.8

(a) Includes senior secondary colleges. (b) Includes the secondary classes of combined primary and secondary schools. (c) Includes those enrolled in Years 11, 12 and 13. (d) Full-time equivalents.

Source: ABS catalogue no. 4221.0

exceptions of the all-girls Ogilvie High and the all-boys New Town High. Senior secondary colleges cover Years 11 and 12.

Most Year 7 and 8 students follow a common course developed by the school and endorsed by the Schools Board of Tasmania. In Years 9 to 12, students follow courses derived from the Tasmanian Certificate of Education (TCE) syllabus. Schools generally require all Year 9 and 10 students to follow a core set of subjects. The TCE is issued to all students who have successfully completed one or more subjects studied in Years 9 to 12. Requirements for tertiary entrance are determined by the University of Tasmania.

The trend in secondary school enrolments and staffing numbers during the period 1986 to 1996, is similar to that encountered at the primary school level. The number of teaching staff employed in government secondary schools has dropped by 17%, from 2,473 in 1986, to 2,056 in 1996. This, along with a drop of 6% in student enrolments, has placed considerable pressure on the State schooling sector. Non-government secondary schools have experienced an increase in both staffing and student numbers over the same 10-year period (29% and 24% respectively).

Recent developments

The Australian Vocational Education and Training System (AVTS) provides senior secondary students with workplace experience and helps them to tailor their schooling more closely to future vocational and life needs. In 1995, 23 AVTS programs were offered to senior

secondary students, with this number increasing to 70 in 1996. An estimated 15% of Year 11 and 12 students participated in these programs. Students received training in industries as diverse as forestry, entertainment and soft furnishing.

APPARENT RETENTION RATES, YEARS 7 TO 12

	Tasmania rate	Australia rate
1980	26.9	34.5
1981	26.7	34.8
1982	21.9	36.3
1983	24.7	40.6
1984	27.6	45.0
1985	28.7	46.4
1986	30.3	48.7
1987	33.0	53.1
1988	37.6	57.6
1989	39.7	60.3
1990	44.7	64.0
1991	52.6	71.3
1992	60.2	77.1
1993	60.6	76.6
1994	58.3	74.6
1995	59.7	72.2
1996	53.1	71.3

Source: ABS catalogue no. 4221.0 and Year Book Australia 1997

Retention rates in secondary schools

The apparent retention rate to Year 12 is the percentage of students who remain in secondary education from Year 7 to Year 12. To calculate the apparent retention rate of Year 12 students in 1996, the number of students in 1996 is expressed as a percentage of the number of students who were in Year 7 in 1991.

A range of factors affect the calculation of the apparent retention rate, with no adjustments being made for these effects. These include migration, students repeating a year of education, and transfers between the government and non-government systems at the end of Year 10. In addition, some Tasmanian non-government schools have no senior secondary college for Year 11 and 12 students, or their senior secondary colleges do not match the range of subjects offered at the equivalent government institutions. Despite these differences, the majority of non-government schools continue to have higher retention rates than government schools.

The number of students remaining in school to a senior secondary level has increased significantly over the last two decades. This steady increase has occurred at both a national and State level, despite Tasmania's retention rates being relatively low in comparison with Australia's. The total Year 12 retention rate for Tasmanian schools has improved from 26.9 in 1980, to 53.1 in 1996.

Alternative schooling arrangements

Some parents prefer to have their children with disabilities educated in a special school or unit. In 1996, approximately 250 students with significant disabilities were enrolled in such schools.

Home education occurs when parents choose to assume responsibility for planning, implementing and evaluating their children's learning program from home. The Home Education Advisory Council was established in February 1993 to monitor and advise on the adequacy of these individual programs. 430 students were enrolled in the home education program for 1996.

The School of Distance Education operates as a unit within the State Government's Department of Education, Cultural and Community Development. Its primary purpose is to cater for the educational needs of children who are unable to attend school in the same way as their peers. Reasons for enrolment are typically because of isolation, travel and health. In 1996, 873 students were enrolled at the school.

Tertiary education

Tertiary education encompasses any institution offering post-school education. Tertiary courses are offered at a number of institutions, including those providing higher education, Technical and Further Education (TAFE), Adult Education, and specific business courses.

Educational Services for Students with Disabilities

The Department of Education, Community and Cultural Development's commitment to providing educational services for students with disabilities continued throughout 1995 and 1996. Close monitoring of staffing and funding levels ensured students, whether enrolled in a regular or specialist school environment, were provided with an equitable distribution of resources. Although the inclusion of students with disabilities into regular schools is regarded as a Departmental objective, it also recognises some parents' preference for having their child with a disability educated in a special school.

Support material for the Inclusion of Students with Disabilities was developed and published, providing teachers of students with disabilities with professional development opportunities. Eighty school principals from across Tasmania participated in a 3-day workshop which promoted an inclusive curriculum.

Services were provided to approximately 150 deaf and hearing impaired students, over 90 vision impaired students, as well as 114 students with Autism Spectrum Disorder. Early Special Education Services provided specialist educational intervention to more than 300 children between birth and 5 years.

UNIVERSITY OF TASMANIA STUDENT NUMBERS 1988-1996

Enrolments	1988 no.	1989 no.	1990 no.	1991 no.	1992 no.	1993 no.	1994 no.	1995 no.	1996 no.	Change 1988-1996	
										no.	%
Commencing											
Launceston	1 308	1 465	2 144	2 162	1 745	1 788	1 988	1 724	1 597	289	22
Hobart	2 225	2 339	2 347	2 573	2 573	2 597	2 584	3 173	3 030	805	36
Off-shore	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	170	86	n.a.	n.a.
NW Coast	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	128	138	n.a.	n.a.
Other	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	18	n.a.	n.a.
Total	3 533	3 804	4 491	4 735	4 318	4 385	4 572	5 195	4 869	1 336	38
Continuing											
Launceston	1 795	1 956	2 107	2 576	2 905	2 919	3 007	2 309	2 456	661	37
Hobart	3 125	3 142	3 530	3 836	4 090	4 314	4 451	4 708	4 883	1 758	56
Off-shore	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	84	214	n.a.	n.a.
NW Coast	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	102	156	n.a.	n.a.
Other	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	33	n.a.	n.a.
Total	4 920	5 098	5 637	6 412	6 995	7 233	7 458	7 203	7 742	2 822	57
All students											
Launceston	3 103	3 421	4 251	4 738	4 650	4 707	4 995	4 033	4 053	950	31
Hobart	5 350	5 481	5 877	6 409	6 663	6 911	7 035	7 881	7 913	2 563	48
Off-shore	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	254	300	n.a.	n.a.
NW Coast	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	230	294	n.a.	n.a.
Other	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	51	n.a.	n.a.
Total	8 453	8 902	10 128	11 147	11 313	11 618	12 030	12 398	12 611	4 158	49

(a) Other includes Distance education and Interstate students.

Source: Statistics '96 University of Tasmania

UNIVERSITY OF TASMANIA STAFF NUMBERS 1988-1996

Staff (a)	1988 no.	1989 no.	1990 no.	1991 no.	1992 no.	1993 no.	1994 no.	1995 no.	1996 no.	Change 1988-1996		Percentage	
										no.	%	1988 %	1996 %
Launceston													
Women	141	166	187	211	230	230	226	227	227	86	61	42	47
Men	195	214	211	225	250	251	258	251	257	62	32	58	53
Total	336	380	398	436	480	481	484	478	484	148	44	100	100
Hobart													
Women	360	360	381	433	450	476	495	500	483	123	34	36	42
Men	637	641	652	689	687	697	696	699	678	41	6	64	58
Total	997	1 001	1 033	1 122	1 137	1 173	1 191	1 199	1 161	164	16	100	100
NW Centre													
Women	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	6	n.a.	n.a.	n.a.	75
Men	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	2	n.a.	n.a.	n.a.	25
Total	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	8	n.a.	n.a.	n.a.	100
University													
Women	501	526	568	644	680	706	721	727	716	215	43	38	43
Men	832	855	863	914	937	948	954	950	937	105	13	62	57
Total	1 333	1 381	1 431	1 558	1 617	1 654	1 675	1 677	1 653	320	24	100	100

(a) Full-time and fractional full-time staff only.

Source: Statistics '96 University of Tasmania

Higher education

Once students have completed Year 12, or qualified as mature-age entrants, they may be eligible to proceed to higher education. In Tasmania, the Australian Maritime College and the University of Tasmania provide higher

education courses. Entrance into these higher education institutions is usually by academic merit.

University of Tasmania

Organisation

With two main campuses, as well as several branch campuses and a study centre, the University of Tasmania (as the only university in the State) provides higher educational opportunities to all eligible Tasmanians. It is however, administered as a unified institution, with a single governing body (the Council), and an Academic Senate which advises the Council on all academic matters.

There are ten university-wide faculties: Commerce and Economics, Law, Design, Engineering and Surveying, Education, Humanities and Social Sciences, Medicine and Pharmacy, Nursing, Science and Technology, and Visual and Performing Arts. These faculties are responsible for curriculum, teaching and assessment in a range of courses, from associate diploma to doctorate. Academic planning and resource allocation is managed by the seven Schools. The 56 departments, each assigned by Council to a School and a Faculty, form the basic units within the University's structure of academic governance and management.

Teaching

The University offers full-time and part-time courses as well as external study. In 1996, 68% of students were enrolled in full-time study. Courses are delivered at 2 main campuses: Sandy Bay in Hobart, and Newnham in Launceston. Branch campuses are situated in the Hobart City centre. The Conservatorium of Music is located in Harrington Street, the Clinical School in Collins Street, and The Tasmanian School of Art in Hunter Street. Study centres were located in Burnie and Devonport before the University's North West Centre was opened in 1995.

Courses offered (at either one or both of the 2 main campuses) include urban design, surveying and spatial information, law, agricultural science, economics, computer science, zoology, music, fine arts, aquaculture, engineering, architecture, social welfare and nursing.

University of the Third Age

Originating in France in 1972, the University of the Third Age is a world-wide organisation which has emerged more recently in Australia as the direct result of changing educational attitudes.

In recognition of the need to provide educational services to a rapidly growing section of the community, the University of the Third Age offers enrichment courses for people over the age of 50. Nationwide in 1996, there were 113 groups with a total membership of 31,080 people.

The University of the Third Age commenced in Hobart following a public meeting in December 1989, with representatives from the University of Tasmania, the Council of the Ageing, and Adult Education in attendance. The first classes were held at the Jane Franklin College in April 1990. The 1996 student intake was 884, with the majority of classes taking place at the Springvale Boys Hostel in Newtown. Although the main campus is situated in Hobart (604 members), two other groups have emerged in Clarence (230 members) and Cygnet (50 members).

The program varies depending on the availability of staff, with approximately 45 subjects being offered each term. Courses cover a range of topics - humanities, social sciences, sciences, languages, art and music. Tutors and administrators support the program on a volunteer basis. The program's focus is on enjoyment and understanding, rather than academic achievement. There are no entry requirements, no exams and no limit to the number of courses that can be attended.

During the summer vacation, an additional series of lectures is offered at the University.

Student and staff profile

The University of Tasmania continues to expand. In 1996, student enrolments were 12,611, an increase of 4,158 on the figure for 1988. There were 4,869 commencing students in 1996, 39% of all enrolments. Of the 1996 student population, 742 were higher degree research students, and 528 were higher degree coursework students. Approximately 83% were enrolled for bachelor degrees. 1996 also saw an increase in the number of student graduates, with 1,982 Hobart students and 917 Launceston students completing their degrees.

Overall growth in the number of staff from 1988 to 1995 was 344 persons, an increase of 26% for the University over the last 7 years. In 1996, numbers dropped by 24, with 1,161 staff located in Hobart, 484 in Launceston, and 8 at the new North West Centre.

Recent developments

In 1995, the University's North West Centre was established at Mooreville Road, Burnie. The building was opened in July to coincide with the commencement of semester 2 classes. The new centre improves the capacity of the University to offer high quality programs to those living in the North West. Dairy research activities are taking place in the southern wing of the new centre.

Research

Like all higher education institutions, the University of Tasmania has a dual role, involving both teaching and research. Research funds are received from the Commonwealth Government, from other public bodies, and from the private sector. The funds available for projects in 1995 rose to \$6.3m, up from \$5.7m in 1994. The university is a major partner in 4 of Australia's Cooperative Research Centres (CRC): Antarctic and Southern Ocean Environment, Aquaculture, Temperate Hardwood Forestry, and Sustainable Production in Forestry.

A Special Research Centre (SRC) for ore deposit research is also funded by the Commonwealth Government. The university has 3 National Key Centres for Teaching and Research: Ore Deposit and Exploration Studies (CODES), Aquaculture, and Antarctic and Southern Ocean Research.

Funding

Total operating funds amounted to \$139.8m in 1995. This included \$89.4m from the Commonwealth Government, and \$18.4m from the Higher Education Contribution Scheme (HECS).

The Australian Maritime College

The Australian Maritime College is the Commonwealth Government's national centre for maritime education and training. Its teaching campus is located at Newnham, a suburb of Launceston, and its training facility is at Beauty Point, near the mouth of the Tamar River. In 1995, the Australian Maritime College enrolled 904 students, a slight decrease in numbers compared to the 1994 figure of 1,012.

Through its 2 main Faculties (Maritime Transport and Engineering, and Fisheries and Maritime Environment), the College offers a range of accredited courses from certificate to postgraduate level. Additional special-purpose courses are conducted using the equipment and facilities of the Centre for Marine Simulation.

Courses offered prepare those individuals wishing to become:

- operators of merchant ships and fishing vessels;
- shore-based managers in the shipping industry;
- technologists and managers in the fishing industry; or
- engineers, ship designers and technologists for shore-based careers in the maritime and related industries.

Credit for skills and knowledge gained on-the-job, provides an opportunity for those who did not complete senior secondary schooling to gain a diploma and professional recognition in their occupation.

Developments in 1995

1995 saw the continuing implementation of the Equal Employment Opportunity Management Plan. This included the formation of an Aboriginal Education and Employment Advisory Committee, as well as a Unit to cater for the needs of Aboriginal and Torres Strait Islander students who attend the College for mainstream award courses, and for short courses specifically designed and delivered to meet their needs.

AUSTRALIAN MARITIME COLLEGE STUDENT ENROLMENTS, JUNE 1995

Course	Enrolment no.
Faculty of Fisheries and Marine Environment	
Graduate Diploma in Fisheries	13
Bachelor of Applied Science (Fisheries)	100
Graduate Certificate in Applied Science (Fisheries)	7
Master of Applied Science (Fisheries)	5
Certificate in Fishing Operations	36
Certificate in Small Craft Operations (Deck)	20
Certificate in Marine Operations	128
Total	309
Faculty of Maritime Transport and Engineering	
Bachelor of Engineering (Naval architecture)	81
Bachelor of Engineering (Maritime)	28
Bachelor of Technology (Maritime Electronic and Electrical Engineering)	29
Bachelor of Technology (Marine Engineering)	61
Associate Diploma of Technology (Marine Engineering)	13
Associate Diploma of Engineering in Maritime Electronics	35
Diploma of Applied Science (Nautical)	80
Graduate Diploma in Shipping (Business)	3
Graduate Diploma in Shipping (Business) (a)	50
Advanced Certificate in Marine Operations	35
Diploma of Applied Science (Shipmaster)	48
Master of Business (Maritime Management) (a)	18
Graduate Diploma in Business (Port and Terminal management) (a)	14
Graduate Certificate in Marine Surveying	10
Graduate Certificate in Business (Shipping)	10
Graduate Certificate in Business (Shipping) (a)	32
Graduate Certificate in Business (Port and Terminal management) (a)	9
Certificate in Maritime Business (a)	22
Pre-Study Program for Advanced Certificate in Marine Operations (a)	17
Total	595

(a) External courses

Source: Australian Maritime College Annual Report of Council 1995

TAFE ENROLMENTS, 1996

Sub-program	Drysdale no.	Hobart no.	Launceston no.	North-West no.	Total no.
Primary	—	1 058	336	680	2 074
Manufacturing and Engineering	30	2 438	1 925	2 021	6 414
Building and Architecture	—	1 257	15	125	1 397
Business Services	90	4 134	1 806	2 748	8 778
Personal and Community Services	—	2 107	808	699	3 614
Hospitality and Tourism	2 347	23	—	538	2 908
Equity and Access	—	640	206	557	1 403
Total	2 467	11 657	5 096	7 368	26 588

Source: TAFEMIS

Vocational education

The Vocational Education and Training (VET) sector of education provides an array of post-compulsory courses which are neither part of general secondary education nor higher education.

The main purpose of the VET program is to ensure that Tasmanian industry has a well-trained, highly skilled workforce. Providers

of VET courses include the Institutes of Technical and Further Education (TAFE) and Adult Education, the Australian Maritime College, and private trainers.

New TAFE child-care centre

The TAFE Child Care and Learning Centre in Launceston has a dual role, providing both training opportunities for student carers, as well as child care for TAFE students, staff and the local community. Planning for the \$732,000 project began in 1996, with the Alanvale centre becoming fully operational on 27 February, 1997.

Developed as part of the Commonwealth Government's commitment to providing further education and training opportunities, the centre had its beginnings in the TAFE Child Care Training Centre located in Bain Terrace, Trevallyn. This centre operated from 1990 to 1996, 3 days a week.

In 1995, the Australian National Training Authority (ANTA) provided the Launceston Institute of TAFE with funding to construct a child-care centre on its Alanvale campus. This was an ideal opportunity to extend the service offered by Bain Terrace.

Managed by the Launceston Institute of TAFE as a self-funding operation, the new centre is run by a combined team of qualified staff, students in training, and supervising teachers. The centre is designed to cater for 42 children aged from birth to 6 years, and is organised into 3 home rooms; one for infants, one for toddlers, and another for preschoolers.

Within its training framework, the centre aims to:

- develop a strong partnership between families, TAFE, the community and the child-care industry;
- establish a best practice model of child care and early education provision for people training to work in children's services;
- provide an infant-toddler program which has a strong developmental focus; and
- provide a pre-school program for 3-6 year olds which has a strong early education focus.

TAFE

Most formal VET activity in Tasmania is provided by the 4 TAFE institutions : the Drysdale Institute of TAFE, the Hobart Institute of TAFE, the Launceston Institute of TAFE, and the North West Institute of TAFE.

The Drysdale Institute of TAFE caters for those students interested in the Hospitality and Tourism Industry. The 3 other institutes offer a range of business, trade, primary, manufacturing and personal courses, including:

- associate diploma courses that are aimed at para-professional personnel, in areas such as engineering, accounting, computing, child care and social welfare;

- trade courses that combine theoretical and practical aspects of the trade (off-the-job training provided by TAFE, complements the on-the-job training given by the employer);
- post-trade courses that are available to extend the skills and knowledge of tradespersons; and
- non-trade vocational programs in areas such as fashion, retailing and commercial studies.

In 1996, of the 26,588 TAFE students enrolled, 33% were participating in the Business Services sub-program, 24% in Manufacturing and Engineering, 14% in Personal and Community Services, and a further 11% in Hospitality and Tourism.

INSTITUTE OF ADULT EDUCATION ENROLMENTS, 1995

	Personal Development no.	Basic Skills and Standards no.	Vocational Education no.	Total no.
Adult Education	26 961	144	58	27 163
Adult Literacy and Basic Education	—	1 881	—	1 881
Adult Migrant English Service	—	953	—	953
Total	26 961	2 978	58	29 997

Source: 1995 TAFE AVETMISS Collection derived from AelMS, AMES national database, and paper-based records.

Recent developments

The *Vocational Education and Training Act 1994*, which came into operation on 1 July 1995, provides the legislative foundation for VET activities in Tasmania. Five new institute councils were established on 1 July 1995 to conform with the new Act. Written to complement Commonwealth legislation, it has been a major step towards providing consistency for the vocational education and training sector throughout Australia.

In May 1996 the Modern Australian Apprenticeship and Traineeship System (MAATS) was introduced. This national training system is designed to make training more relevant to industry needs, and to extend training into new areas.

Adult education

The Institute of Adult Education enables adults to become aware of changes taking place outside their own field of employment or experience. It is a registered provider of accredited vocational and education training, and is a State-wide service, with 10 centres distributed throughout Tasmania.

During 1995, 29,997 students were enrolled in Adult Education courses. Of those enrolments, 90% were directly related to the pursuit of personal development, while of the remaining 3,306 enrolments, 72% were for accredited activity. Accreditation is available in the areas of basic education and literacy, computing and workplace skills.

The Institute's 5 major sub-programs centre around the belief that education is a life-long process and should be available to all members of the community.

Of particular interest, however, are those individuals and community groups who are economically, educationally or otherwise disadvantaged.

The Class Sub Program

The Institute of Adult Education offers a variety of vocational education and training courses as part of its fee paying Class Sub Program. The program includes personal development, cultural, recreational, and art and craft courses. The classes are flexible; with day and evening sessions being held to cater for the special needs and situations of adult leavers.

The Aboriginal Education Sub Program

Through the provision of tuition in numeracy, literacy and introductory classes, the Aboriginal Adult Education Sub Program aims to encourage the Aboriginal community to participate in mainstream Adult Education and community life.

The Adult Literacy and Basic Education (ALBE) Sub Program

The ALBE provides assistance with reading, writing, spelling, basic maths, Year 10 maths, and English, to more than 1800 students in Tasmania per year. The nationally accredited course General Studies for Adults is also offered.

The Workplace Adult Education Services Sub Program

Individual and organisational needs (within the context of the workplace reform agenda) are met through vocational and employment-related programs provided by the Institute.

Adult Migrant English Service Sub Program

The AMES offers language training to a range of non-English speaking clients. It is the only registered provider in Tasmania of the nationally accredited NSW Certificate in Spoken and Written English.

Many courses provide a starting point for encouraging people to go on to award courses at formal education institutions, while others fulfil the social needs of community members without leading to formal qualifications.

Future trends in education

Released in April 1997, the Premier's Direction Statement sets out a series of major initiatives to be undertaken within the Education sector. These include:

- The implementation of mandatory learning outcomes in literacy, numeracy, information technology, vocation education and behaviour management, to ensure all students obtain the necessary skills to succeed in the workforce.
- The rapid introduction of information technology into all government schools, to provide staff and students with the skills and capabilities to work with modern information resources and technology.
- The total re-organisation of TAFE based on State-wide industry sectors and occupations rather than by region. Five institutes will be created (Natural resources, Business, Drysdale, Adult Education and Community Services, and Industry) and all will be in operation for the 1998 academic year.

FURTHER READING

ABS publications

Education and Training in Australia (4224.0)

Schools, Australia (4221.0)

Transition from Education to Work, Australia (6227.0)

Other publications

Australian Maritime College, *Annual Report of Council 1995*

Department of Education, Community and Cultural Development, *Annual Report 95-96*

Department of Employment, Education and Training, *Selected Higher Education Statistics 96*

Department of Vocational Education and Training, *Annual Report 95-96*

Department of Vocational Education and Training, *1996 Tasmanian Vocational Education and Training Directory*

National Centre for Vocational Education Research Ltd, *Selected Vocational Education and Training Statistics 1995*

University of Tasmania, *Annual Report 1995*

University of Tasmania, *Statistics 1996*

Acknowledgments

Home Education Advisory Council

University of the Third Age

Open Learning Australia

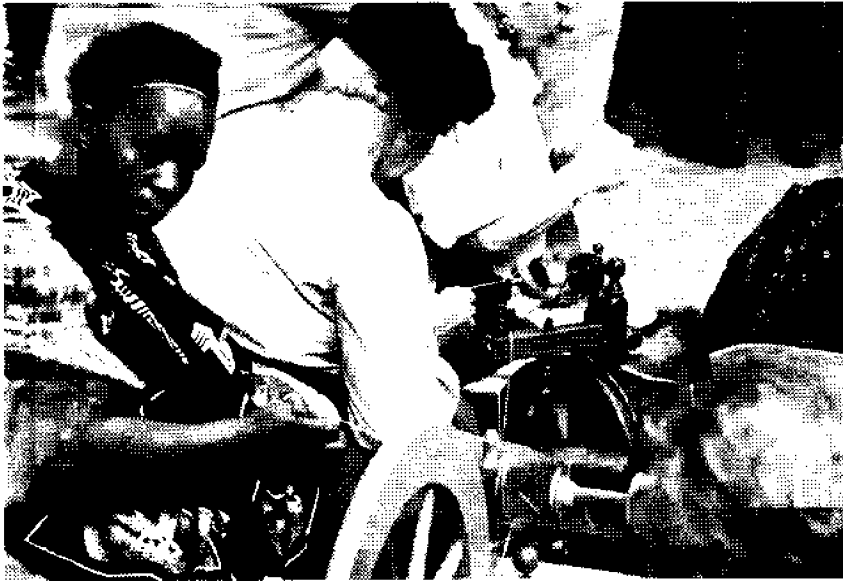
Institute of Adult Education

TAFE Child Care and Learning Centre

CHAPTER 10

Culture and the arts

Photo: Danny Furlani



Among the visitors to the Bothwell International Highlands Spin-In in 1997 were 2 women from Swaziland who demonstrated their spinning skills. There were 345 entries from 15 countries.

Cultural activities are essential to a shared sense of quality of life. These activities include cultural heritage, creative and performing arts, literature, film and video, libraries, radio and television, language and religious practice, adult education, active attachment to custom and place, recreation, and activities around the conservation and enjoyment of the natural environment. It is also being increasingly recognised that cultural activities also make an important contribution to the economy.

Culture is a difficult concept to define; it can mean different things to different people. While the majority of Australians are of British or Irish origin, and the great majority speak English only, it was recognised by the early 1970s that Australia is a multicultural society. While Tasmanians may not be able to define themselves by reference to a single common ancestry or a unique language, Tasmanians can

define themselves in terms of the uniqueness of geography, and democratic ideals.

Cultural heritage

For some historians, and others, the cultural environment can be thought of as belonging to either Aboriginal culture or European culture. The former includes Aboriginal sites; the latter includes old towns and buildings, streetscapes and shipwrecks.

Tasmania's heritage also contains a significant component which depends on the natural environment. This is preserved in national parks, nature reserves, marine reserves, and wilderness areas as well as many other smaller sites.

Register of the National Estate

The functions of identifying and conserving Australia's national heritage are shared between all levels of Government. The Register of the National Estate, maintained by the Australian Heritage Commission, is the national list of places of Australia's Aboriginal, historic and natural heritage that should be kept for present and future generations. Listing on the Register alerts planners, decision makers, researchers and the community at large to the heritage value of these places. During 1995-96 the number of Tasmanian places in the Register increased by a net 9 to 1,443. A further 28 places were placed on the Interim List (12 Aboriginal, 7 historic and 9 natural).

During 1995-96 the following places in Tasmania were notified to the Commission as being added to the National Estate:

- Ralphs Bay/Racecourse Flats Bird Habitat, Lauderdale;
- Launceston Railway Workshops, Inveresk;
- Police Commissioner's Residence (Former), Kelly House, Sorell;
- Bishops court, South Hobart;
- Magdalene Home (Former), Mount Saint Canice Complex, Lower Sandy Bay; and
- Claremont House and Grounds, Lady Clark Hospital, Claremont.

The following places in Tasmania were notified to the Commission as being lost to the National Estate:

- Deddington Inn, Deddington, destroyed by fire in 1980;
- Cambock Stone Frame Building, Evandale, demolished; and
- St Mary Magdalen Anglican Church, George Town, destroyed by fire in 1995.

The *Tasmanian Historic Cultural Heritage Act 1995* was proclaimed in February 1997. The Act includes criteria for the assessment, provisional entry, appeal against, and registration of places (including shipwrecks) or heritage areas in a Tasmanian Heritage Register. The Australian Heritage Commission worked closely with the Tasmanian Parks and Wildlife Service to identify and assess places of heritage significance.

This involved determining listings held by the Commission, the Department of Environment and Land Management, National Trust, Hobart City Council, and Launceston City Council. The shared information is being used to upgrade listings in the Register of the National Estate and create entries in the Tasmanian Heritage Register.

The legislation also established the Tasmanian Heritage Council. The Council operates with 5 full-time and 5 part-time employees and it plans to set up a program with heritage advisers in all regions of the State.

The Act also requires works and planning actions affecting a registered place to be referred to the Tasmanian Heritage Council for approval.

Forests

In 1995, the Commonwealth proposed a strategy to protect high conservation value forests, pending the finalisation of regional forest agreements. In Tasmania, implementation of the strategy has progressed, with the signing of a Deferred Forest Agreement (called the Interim Forest Assessment, to avoid confusion with the similarly named State processes). The Agreements establish interim protection related to the Commonwealth reserve criteria in deferred forest areas until a comprehensive regional assessment of all forest values is undertaken and a regional forest agreement is in place. The Agreements also provide interim protection for key national estate values such as wilderness, old growth and biodiversity.

The Tasmanian Government and the Commonwealth Government signed the Interim Forest Agreement in January 1996. The Scoping Agreement for the Tasmanian Regional Forest Agreement was also signed at this time. Since the signing of the Scoping Agreement, the Australian Heritage Commission has been working closely with Commonwealth and State agencies in order to develop a comprehensive approach to forest assessment and agreed methodologies for the identification and assessment of national estate natural and cultural values.

THE REGISTER OF THE NATIONAL ESTATE

State/Territory	30 June 1995	30 June 1996			
	Total (a) no.	Aboriginal no.	Historic no.	Natural no.	Total (a) no.
NSW	3 287	213	2 844	417	3 474
Vic.	2 467	103	2 193	200	2 496
Qld	1 031	144	705	261	1 110
WA	1 143	74	879	229	1 182
SA	1 238	143	745	361	1 249
Tas.	1 434	63	1 153	227	1 443
NT	240	86	105	52	243
ACT/Jervis Bay	160	10	137	28	175
External Territories	31	0	15	16	31
Total	11 031	836	8 776	1 791	11 403

(a) Does not include those on the Interim List.

Source: Australian Heritage Commission, Annual Report 1995-96

World Heritage listings

Natural and cultural properties which are considered to be of 'outstanding universal value' and which meet the criteria of the World Heritage Convention may be entered in the World Heritage List. The list is compiled by the World Heritage Committee. Signatories to the Convention (such as Australia) identify, protect, conserve, present and transmit to future generations, natural and cultural properties entered in the World Heritage List.

In May 1996, the Australian Heritage Commission met at Port Arthur to discuss the possible serial nomination of a group of places

which convey the theme of convict transportation and its outcomes to Australia. Port Arthur was nominated, among others, as a place for inclusion.

Aboriginal places

In 1996, there were 75 Aboriginal places in Tasmania listed on the Register of the National Estate. The two main place types protected, occupation sites (27) and shell middens (17), accounted for 59% of all Tasmanian Aboriginal places on the Register, including those on the Interim List.

ABORIGINAL AND TORRES STRAIT ISLANDER PLACES IN THE REGISTER OF THE NATIONAL ESTATE, 30 JUNE 1996 (a) (b)

Place type (c)	Tasmania no.	Australia no.
Occupation site	27	93
Shell midden	17	66
Fish and eel trap	0	18
Hunting hides and traps	0	3
Grinding grooves	0	19
Quarries	5	35
Wells	0	11
Modified trees (scarred and carved)	0	45
Art sites	5	206
Stone arrangements	3	54
Ceremonial sites	0	18
Places of significance to Aboriginal people	0	104
Burials, cemeteries and graves	3	31
Historic and contact sites	1	45
Site complexes	13	107
Organic resource area	1	1
Total	75	856

(a) Includes registered places and places on the Interim List. (b) At present there are no Torres Strait Islander places in the Register of the National Estate. (c) Most of these places encompass a number of Aboriginal sites. There are many thousands of individual sites covering a wide range of site types in the Register.

Source: Australian Heritage Commission, Annual Report 1995-96

Historic environment places

The Tasmanian Department of Environment and Land Management has an important statutory obligation to manage the conservation and sustainable use of Tasmania's historic heritage.

Many of the places in the Register of the National Estate are buildings, many of which are privately owned. Because maintenance costs are a major threat to their heritage values, a Commonwealth tax rebate scheme for approved conservation works was introduced in 1994-95 to assist in protecting privately owned heritage buildings listed in the Register of the National Estate or in State or Territory heritage registers.

While the Commonwealth operates the scheme, there is significant advice and help from State Government heritage agencies.

Cultural pursuits

In the 12 months to March 1995, Tasmanian visiting or attendance rates were higher than national rates for museums (35.6% compared to 27.8%) and classical music performances (10.0% compared to 7.7%).

The State recorded lower rates than the national rates for visiting or attendance at such cultural venues as cinema (50.4% compared to 62.1%), opera or musicals (8.4% compared to 19.3%), animal and marine parks (27.3% compared to 35.3%), and popular music (22.6% compared to 26.9%). These lower attendance rates in Tasmania may relate to the lack of accessibility to some of these cultural venues.

Tasmanian attendance levels at the cinema were highest amongst the younger members of the population (15-24 years). Similarly, attendances

HISTORIC ENVIRONMENT PLACES IN THE REGISTER OF THE NATIONAL ESTATE, 30 JUNE 1996

Type of place	Tasmania (a) no.	Australia (a) no.
Residential buildings	452	2 620
Hotels, motels, inns	77	423
Retail and wholesale	81	697
Government and administration	14	142
Finance	10	194
Community facilities	11	253
Recreation and entertainment	24	267
Parks, gardens and trees	14	210
Education	33	344
Religion	117	738
Cemeteries and burial sites	12	77
Monuments and memorials	3	131
Health services	0	18
Public utilities	7	56
Postal and communication	15	174
Shipwrecks	1	58
Rail transport	12	223
Road transport	15	178
Air transport	0	6
Water transport	22	138
Maritime industry	0	4
Mining and mineral processing	2	90
Forestry and timber industry	0	1
Manufacturing and processing	8	73
Farming and grazing	150	694
Law and enforcement	26	430
Military	12	143
Scientific facilities	0	7
Exploration, survey and places of historical events	10	69
Urban area	32	385
Landscape	0	13
Total	1 160	8 856

(a) Includes registered places and places on the Interim List.

Source: Australian Heritage Commission, Annual Report 1995-96

at popular music concerts were also highest for this group. The highest levels of attendance at public libraries were recorded for people aged 15–17 years.

The highest attendance rates for art galleries, classical music and opera or musicals were by the 45–54 year age group. The highest attendance rate for museums was by the 35–44 year age group.

People with the lowest attendance rates at most venues or activities were in the 65 years and over age group.

An estimated 50.4% of the Tasmanian population aged 15 years and over (184,900 people out of 367,000) had visited a cinema at least once in the year ended March 1995. This is almost 12% less than the Australian attendance rate for the same time period. Some 37.2% (136,500 people) had visited a public library and 37.0% (135,600 people) had visited a botanic garden. These attendance rates were similar to the corresponding national figures.

**ATTENDANCE AT CULTURAL ACTIVITIES,
PARTICIPATION RATES (a)**

Venue/activity	Tasmania %	Australia %
Cinema	50.4	62.1
National, State or local library	37.2	38.4
Botanic garden	37.0	38.5
Museum	35.6	27.8
Animal and marine parks	27.3	35.3
Popular music	22.6	26.9
Art gallery	21.4	22.3
Other performing arts	18.1	18.7
Theatre	15.2	16.6
School, college or university library	14.2	17.1
Classical music	10.0	7.7
Circus	9.3	8.1
Zoo	9.0	22.2
Opera or musical	8.4	19.3
Dance	6.9	10.0
Children's dance	2.3	3.0

(a) Those who attended a venue/activity at least once in the 12 months ended March 1995.

Source: ABS catalogue no. 4114.0

Museums and art galleries

In the 12 months to March 1995, attendance rates for Tasmanians visiting museums ranged from 48.1% of those aged 35–44 years to 21.1% of those aged 65 years and over. For art galleries, the highest attendance rates were for those aged 45–54 years (27.3%); the lowest for those aged 65 years and over (11.6%). An estimated 35.6% of Tasmania's population aged 15 years and over visited a museum (compared to the national figure of 27.8%) while 21.4% visited an art gallery in the 12 months to March 1995 (compared to the national figure of 22.3%).

The Tasmanian Museum and Art Gallery

The Tasmanian Museum and Art Gallery (TMAG) houses collections in the fields of fine and applied art, zoology, geology, botany, history, anthropology, and applied science. It is an integrated institution, concerned with the whole range of natural and human heritage, with particular emphasis on Tasmanian exhibits. The Museum's traditional function, and still the major part of its operation today, is to collect, conserve, study and display items of cultural or scientific value to the community. Its income is provided mainly by an annual grant from the State Government, supplemented by a contribution from the Hobart City Council.

Highlights of 1996–97

Over 165,000 people visited the Tasmanian Museum and Art Gallery in 1996–97. The year saw a 47% increase (or 52,840 people) on the previous year. When compared to 1994–95, the attendance during 1996–97 amounted to an increase of around 25%. The upturn in the figures for 1996–97 has been attributed to a number of highly successful exhibitions such as the *Tom Roberts retrospective*, *Megafun with computers* and *Mitey Science*.

By July 1997, the exhibition *Whales—Giants of the Deep* had attracted more than 10,000 visitors and more than 600 class-group bookings from around the State, making the exhibition the most successful TMAG exhibition in terms of attendance by school-aged children.

Two scientists with the TMAG's Herbarium won international study awards. The Herbarium's phanerogamic botany curator, Andrew Rozefelds, received a grant from the Ian Potter Foundation to attend the Botanical Society of

Tasmanian Museum and Art Gallery 1995–96

Major exhibitions

- * Aboriginal Warriors 1788–1995
- * Wool in the Australian Imagination
- * Eat, Drink and Be Merry: Entertaining at Home 1840–1970
- * Australia Remembers
- * Mirey Science
- * Melba—A Sentimental Journey
- * It's Imagination—Carl Orff Centenary
- * With Hidden Noise
- * Meaning of Dress
- * Tasmanian Studio Glass
- * National Glass Collection
- * BBC Wildlife Photography
- * Looking South, Photographs from the Australian Antarctic Division
- * Alvar Aalto
- * National Awards for RALA
- * More than Pooh: E H Shepard in Tasmania
- * The Book on Tour—Australian Children's Book Illustration
- * On the Brink—Threatened Species Network
- * Fascinating Science
- * Brushing the Dark

During 1995–96, more than 112,000 people visited the TMAG, 20,000 fewer (or almost 15%) than the previous year. This decline was thought to relate to the amount of advertising and promotion undertaken for individual events.

America conference in Canada and a travelling fellowship to study science displays.

Invertebrate Zoology curator, Roger Buttermore, won a Churchill Fellowship to study bumblebee research facilities in New Zealand, Canada and Europe during May and June 1998.

Highlights of 1995–96

In 1995–96, the Custom House was added to the building stock of the TMAG. The Trustees of the TMAG now manage the city block bounded by Davey, Argyle and Macquarie streets. The acquisition of the Custom House now means that environmentally controlled spaces for precious items can be developed. A dedicated discovery space and teaching facility has also allowed for local and travelling exhibitions specifically tailored for schools and younger children. The library, which holds over 8,000 monographs and 310 journal titles, is now also located in the Custom House, as are Administrative Services and Information Services provision facilities that are available to the public by appointment.

During 1995–96, part of the original Henry Hunter Museum Rooms was restored with funds donated by a major benefactor. The gallery, which was restored to its 1863 Henry Hunter design and colours, opened with the most elaborate and complex decorative arts exhibition ever staged by the TMAG. The exhibition contained more than 400 objects from the collection dating between 1840 and 1970.

Another benefactor provided an annual endowment over a 10 year period to support the area of Design for Contemporary Living. The contribution was recognised by the renaming of the Shipping Room where at least once a year there will be an exhibition dedicated to ceramics and/or glass.

The Von Guerard Committee raised more than \$300,000 towards the possible acquisition of the colonial painting, *View of Hobart Town*, which was to be auctioned. Unfortunately, the TMAG was unsuccessful in its bid and funds were returned to donors.

Invertebrate zoology research

During 1995–96 a major study was undertaken, in conjunction with the Zoology Department at the University of Tasmania in Hobart, on the introduced North Pacific Seastar. In March 1996 a report was submitted to the Australian Nature Conservation Agency's Feral Pests Program on

seastar distribution and impact on marine benthic fauna. The study showed that significant populations of the seastar remain confined to the Derwent River estuary. Distribution is thought to be influenced by exposure to physical disturbance, type of sediment, and availability of prey.

In 1995–96, bumblebee research was undertaken. Several feral colonies were collected for field and laboratory study. Data was recorded and used to assess the genetic base of Tasmanian stock for commercial rearing purposes.

A small project was also undertaken to determine whether the New Zealand Porcelain Crab may have been introduced to Tasmania.

Vertebrate zoology research

In 1995–96, 59 mammal and bird specimens were received from the public, Parks and Wildlife Service and other sources.

There continued to be a high level of usage of the reference collection with 202 vertebrate zoology specimen loans and 22 applied science loans being made. About 65 zoology enquiries and identifications were also carried out during the year.

The Curator continued to act as a consultant to the Poisons Information Unit at the Royal Hobart Hospital.

The Herbarium

The role of the herbarium is to develop, maintain, and manage the Museum's Tasmanian botanical collections, and to identify, classify and document the relationships of Tasmanian flora. It also provides prompt and accurate botanical advice to a wide range of individuals, government departments, scientific and educational institutions, and other organisations.

The Herbarium currently houses about 300,000 plant specimens, with angiosperms being the largest plant group represented. Also significant, although smaller in size, are the collections of gymnosperms, pteridophytes, lichens, algae and fungi.

In 1995–96, the Herbarium's vascular plant database was redesigned. It currently contains over 58,000 records.

During 1995–96, data entry for the lichen collection also began, with over 1,200 records entered. Data entry for the Herbarium's reprint

collection also resumed. As a result of demand, a computer terminal for the public's use was developed.

Herbarium staff identified over 880 specimens for 108 clients and provided a forensic service for the police. In 1995-96, more than 1046 visitors used the Herbarium facility or consulted staff.

West Coast Museum

The West Coast Pioneers' Memorial Museum at Zeehan operated as a branch of the Tasmanian Museum and Art Gallery from 1965 until 1994 under the *West Coast Memorial Museum Act 1965*. This Act was repealed in 1994, placing the management responsibility with the West Coast Heritage Authority Limited. The Authority manages the Museum's assets at Zeehan. The historical significance of these buildings and collections is considered by many to be the equal of any other tourism site in Tasmania.

The Museum deals with the history of the West Coast of Tasmania, with an emphasis on mining, and is visited by about 50,000 people each year.

Queen Victoria Museum and Art Gallery

The Queen Victoria Museum and Art Gallery was established by the Tasmanian Government in 1891. Since 1895 its management has been vested in the Launceston Corporation, with financial support from an annual State Government grant.

In 1995-96, the collections of the Queen Victoria Museum and Art Gallery included humanities-based collections such as community history, decorative arts and craft, fine art, and history while the science-based

collections included botany, geology, physical sciences and zoology. Services within the Museum included conservation (of objects, paper and paintings), revenue development, education, information management, library, preparation/casting, public programs and exhibitions.

A group of over a thousand people collectively known as the 'Friends of the Queen Victoria Museum and Art Gallery' assists and promotes the Museum and provides funds vital to the enrichment of the Museum's collections. Two foundations are also aligned to the Museum: the Launceston Art Foundation, which was established in March 1985; and the Plomley Foundation, which was established in 1984.

In 1995-96, the Launceston City Council decided to consolidate all the Museum's activities onto 2 sites. Consequently, the redevelopment of the former Launceston Railway Workshops for use by the Museum became an important issue. The first stage of moving the Museum and Art Gallery to the Railway site was completed during this time and it is envisaged that the project will be completed in early 2001. The State Government committed \$4m to relocate the art collection to the new site.

The redevelopment of the railway site resulted in the Museum's exhibition program being reduced, which contributed to the decline in the overall number of visitors to the Museum.

QUEEN VICTORIA MUSEUM AND ART GALLERY STATISTICS

Venue/activity	1994-95 no.	1995-96 no.
Museum and Art Gallery attendees	106 868	72 744
Touring exhibitions attendees	443 697	298 193
Public enquiries	17 316	9 547
Exhibitions mounted	30	27
Internet hits	n.a.	3 410

Source: *Queen Victoria Museum and Art Gallery, Annual Report 1995-96*

Royal Tasmanian Botanical Gardens

Jean Gray, Royal Tasmanian Botanical Gardens

These gardens are an ideal introduction to the State's historic and botanic heritage. In 1806, just two years after the founding of Hobart, Governor Collins presented a grant of land to John Hagan who developed the area as a farm. This grant included the area now occupied by Government House. In 1818 Governor Sorell directed that the area be developed as a government garden. Governor Arthur ordered that convict labour be used to establish a botanical garden but it was not until 1828 that Mr William Davidson was appointed as the first superintendent. Davidson ordered a large quantity of seeds and trees from England and had also gathered seeds of 150 native plants from the slopes and summit of Mt Wellington. Evidence of the early conifer plantings is seen at the entrance to the gardens.

The Arthur Wall, which was completed in 1829, is constructed of freestone block on one side and bricks on the other. It formed a boundary to the Queens Domain. Because the wall was internally heated, exotic fruits and other plants could be grown or forced, a practice often used in England to extend the growing period of fruits and to provide frost protection.

The 280 metre long Eardley Wilmot Wall and the impressive cast iron entrance gates are reminders of our heritage and nestle in comfortably with more recent buildings and plantings.

The gardens have important educational, botanical and horticultural research programs, thereby increasing knowledge about plants and assisting plant conservation.

They offer a range of native and exotic plants including the largest public collection of conifers in the Southern Hemisphere, spectacular annuals and a vibrant conservatory display.

Native Plant Conservation Program

The Royal Tasmanian Botanical Gardens does extensive work with native plant conservation throughout the State. Seeds and cuttings are collected from the wild, plants are propagated at the nursery in the Gardens. In the case of threatened species, new plants are replanted in the wild, in an effort to increase wild populations.

Some plants are placed in the A.P. May Tasmanian Section, where over 600 species are on display, including approximately 50 threatened species.

The Education Service supports this conservation work by raising awareness of threatened plant species, and encouraging schools and the general community to be involved in solving problems associated with habitat destruction.

Cultural activities in the Gardens

The extensive collection of plants and trees provides an ideal backdrop for activities ranging from family picnics and birthday parties to theatre and music.

The Horticultural Therapy gardening program continues to enthuse the aged and disabled people who attend.

A regular summer program of theatre for children and adults attracts a wide audience and the annual Tulip Festival of Tasmania allows visitors to absorb the botanical splendours of spring.

Theatre Royal, Hobart

Andrew Ross, Theatre Royal

The Theatre Royal was commenced in 1834, after local businessmen decided the growing colony required a permanent theatre, and opened in 1837. Located in the Wapping district, an unpleasant area of slums and industry, the theatre, originally a much smaller structure than the theatre of today, incorporated a tavern in its basement. This was closed after only a few years, apparently because the rowdiness of the tavern patrons was too much of a distraction for the theatre audiences.

The theatre was extensively rebuilt in the early 1900s, when the elaborate plasterwork proscenium, dome with its portraits of poets and composers and lead crystal chandelier were added. The port of Hobart was on major global shipping routes, and during the late part of the nineteenth and early part of the twentieth centuries, the theatre hosted many international artists and companies, who often played at the theatre for weeks at a time on their way around the world. However shipping routes changed and with other forms of entertainment becoming available, performances and attendances dropped off. By the late 1940s, the theatre had fallen into disuse and was threatened with demolition.

In 1948, the Old Vic Company toured to Hobart with Laurence Olivier and Vivien Leigh, who were in part responsible for motivating public opinion towards saving the theatre. A successful fundraising campaign enabled restoration. The building was purchased by the State of Tasmania, and the early 1950s witnessed the Theatre Royal's re-emergence as a major social centre in the city. This was to be crowned in 1952 by a visit

from the then Princess Elizabeth, but en route to Australia, she was called back to England to become Queen following the death of George VI. Nonetheless, the number of productions increased and a resident company even offered subscription seasons.

More work in the 1970s modernised the backstage facilities and created space that was, in the mid-1980s, to become the Backspace Theatre, a popular and affordable performance space for cabaret and smaller local companies. In 1984, the auditorium was again renovated, this time to return its colour to the deep burgundy of the early 1900s. The work was almost complete when disaster struck and the theatre was extensively damaged by fire. The future looked grim, but again the generosity of the public, corporate donors and the State Government ensured that Australia's grand old lady of the theatre world was saved.

In recent years, the theatre has resumed its pre-eminent position in Hobart's social life, thanks in part to government policies encouraging national touring of quality theatre shows. In 1994, a subscription season was successfully re-introduced, and the years since have seen both the number of performances and overall attendances increase steadily. Technology, too, has made its mark on the Theatre Royal, with computerisation of the lighting control system, and in 1994 the installation of a computerised ticketing system. The Theatre Royal also boasts its own Internet site.

The Wapping area is now being revitalised with the construction of inner-city housing, and it is hoped that this development will reinforce the role played by the 'The Royal' in Hobart's theatre culture.

Libraries

In the 12 months to March 1995, 37.2% of the Tasmanian population aged 15 years and over (136,500 people) used a national, State or local library (public library) at least once. This compared with the Australian figure of 38.4%. During the same time period, 14.2% of the Tasmanian population (52,000 people) used a school, college or university library, compared to the Australian figure of 17.1%.

Over the same period, public libraries were used by 46.0% of those aged 15–17 years and 27.9% of those aged 65 years and over.

The State Library of Tasmania

The State Library of Tasmania delivers its services through a State-wide network of 49 public libraries, 4 Bookmobiles and 6 reference and specialist libraries. These include:

- the Tasmaniana Library (a comprehensive collection of historical and contemporary Tasmanian publications);
- the W.L. Crowther Library (a collection of printed, manuscript, pictorial and museum material, mainly Tasmanian; and
- the Allport Library and Museum of Fine Arts (an outstanding collection of 18th and 19th century antiques, colonial paintings and books).

Resources in the State Library include:

- lending and general reference collections;
- the Tasmaniana collection;
- collections of rare and specialist items;
- education resource and media collections; and
- electronic information resources.

The libraries are linked by the Tasmanian Automated Library and Information System (TALIS), which is an automated catalogue and electronic information service. The libraries of 8 senior secondary colleges and 78 school and TAFE libraries are connected to TALIS. The system also provides an avenue to the University of Tasmania Library catalogue.

Public access to the Internet is also available through all city and reference libraries in Tasmania. World Wide Web 'home pages', linked to the State Library home page, were established

for every major library, providing detailed information about available services to Internet users. The *Tasmania Online* service facilitates publishing on the Internet by community and government organisations, and provides a comprehensive listing of local and global Web sites which relate to Tasmania.

A number of library services are tailored for people with special needs, including people with disabilities, people who are disadvantaged by virtue of location, the housebound, and people with languages other than English through the use of special format and delivery systems. These resources include large print books, recorded books, foreign language materials, and video and audio formats. Delivery of such resources is managed through the Bookmobile service, a volunteer courier system, and the integrated library network.

At June 1996, 306,122 persons or 65% of Tasmania's population held a Library card which enabled them borrow. This was 20,000 more than in at June 1995.

During the year 1995–96, more than 4.4 million items were borrowed, which was 100,000 more than 1994–95. About 262,000 reservations for specific items were registered, and almost 600,000 reference and information queries were answered. Over 60,000 books were purchased by the State Library, 14% more than the previous year.

ATTENDANCE AT PUBLIC LIBRARIES (a)

	Number '000	Participation rate %
NSW	1 810.4	37.9
Vic.	1 288.7	36.4
Qld	971.6	38.5
SA	489.4	41.8
WA	547.3	41.0
Tas.	136.5	37.2
NT	49.3	40.8
ACT	109.9	47.9
Australia	5 403.1	38.4

(a) Those who attended a national, State or local library at least once in the 12 months ended March 1995.

Source: ABS catalogue no. 4114.0

Archives Office of Tasmania

The Archives office manages the records of Tasmanian State and local governments, and certain non-government agencies. The office preserves valuable records which are no longer of immediate administrative use.

For the year ended June 1996, more than 10,400 clients used the services provided by the Archives Office. This figure is similar to that recorded in previous years. However the number of items accessed by clients increased by approximately 10%. Records from a range of agencies were transferred to the central custody of the Archives Office as a result of the *National Inquiry into the separation of Aboriginal and Torres Strait Islander Children*. Because of the emphasis placed by the Inquiry on both historical and current records, the office played a substantial role in providing information and advice.

Work continued on the development of a database of names and arrival dates of about 75,000 convicts transported to Tasmania. The database will be used to produce a comprehensive index and it is planned to be made available to the public by the end of 1997.

The Tasmanian Parliamentary Library

This library services much of the information requirements of the Parliament and individual Members of Parliament. The Parliamentary Research Service provided 215 briefings for Members in 1995-96, compared to 277 in the previous year. There were 4588 reference requests in 1995-96, compared to 5661 in 1994-95.

During 1995-96 at the request of Members of Parliament, library staff prepared 126 transcripts taken from either radio or television broadcasts which the library monitors on a daily basis. This compared to 101 in the previous year.

The Parliamentary Library was also responsible for much of the design and content of the Tasmanian Parliament's Internet homepage.

Arts Tasmania

Arts Tasmania is the State Government's arts policy and funding advisory body. It administers an annual program of arts grants and loans. It seeks to further the development of a viable Tasmanian arts industry, and to promote excellence and participation in, and access to, a wide range of arts activities in Tasmania.

Arts Tasmania is responsible for arts development and provides assistance to performers in the areas of music, performing arts, dance and film.

Reports from artists and arts organisations funded through the Arts Tasmania Arts Program indicated that the program supported over 2,800 events State-wide and that these events attracted attendances of more than 360,000. Outdoor events and broadcasts added an estimated audience of 103,000.

In 1995-96, Theatre North launched its first subscription series. The Theatre Royal added a dance subscription to the subscription series, and implemented the Kulture Vulture marketing project to encourage young people to attend theatre performances. A fund created for music initiatives in the North West part of the State was also well accessed.

The Art for Public Buildings Scheme provided for original artworks for completed public buildings.

The Creative Communities Fund encouraged local government to collaborate on the funding of cultural projects, which resulted in the provision of a diversity of funded projects across various regional festivals, streetscape improvements, and projects involving young people.

Exhibition programs were provided through Contemporary Art Services of Tasmania (CAST) to both the Devonport and Burnie Art galleries, thereby increasing the number of contemporary art exhibitions over previous years.

Music and performing arts

Music

Music is an important aspect of the cultural life of Tasmanians. An estimated 22.6% of the Tasmanian population aged 15 years and over (83,100 people) attended a popular music concert and 10.0% (36,800 people) attended a classical music concert at least once in the year ended March 1995. The proportion of people attending popular music concerts peaked for 18–24 year olds (33.8%) while the proportion attending decreased as the age of the population increased. For classical music concerts, the highest proportions of people attending were recorded for 45–54 year olds (15.3%), followed by 55–64 year olds (13.0%) and 25–34 year olds (9.7%).

PERSONS ATTENDING POPULAR MUSIC CONCERTS, 12 MONTHS TO MARCH 1995

	Number '000	Participation rate %
NSW	1 228.6	25.7
Vic.	932.4	26.3
Qld	672.7	26.6
SA	341.8	29.2
WA	402.7	30.2
Tas.	83.1	22.6
NT	38.7	32.0
ACT	90.8	39.6
Australia	3 790.7	26.9

Source: ABS catalogue no. 4114.0

PERSONS ATTENDING CLASSICAL MUSIC CONCERTS, 12 MONTHS TO MARCH 1995

	Number '000	Participation rate %
NSW	363.2	7.6
Vic.	261.6	7.4
Qld	158.1	6.3
SA	102.0	8.7
WA	113.3	8.5
Tas.	36.8	10.0
NT	13.8	11.5
ACT	32.5	14.2
Australia	1 081.3	7.7

Source: ABS catalogue no. 4114.0

Huon and Tamar Valley Folk Festivals

Mike Ruine, Huon Folk Festival Secretariat

Each year early in January, the population of Cygnet swells considerably from its modest 1000, as nearly 2 times that many visitors flock there for the Huon Folk Festival. Fifteen times in the last 16 years the Festival has taken place in this otherwise quiet rural community in the south of Tasmania. This makes it one of the longest running festivals of this nature in Australia, and the longest in Tasmania.

The Festival has been presenting a wide range of musical styles and events to Tasmanian devotees of folk music. These include the best Tasmanian performers, as well as noted Australian and international acts. Although it has had a strong Irish core, in recent years the Festival has seen a greater influx of other musical traditions. Amongst these other traditions, there has been a very popular African flavour over the last 3 years. As well, music and dance from eastern Europe has become more prominent.

The northern counterpart to the Huon Festival is the Tamar Valley Folk Festival. This festival, located in and around George Town, has now been going for 5 years. Although it is slightly more modest in size, the festival is an important event for traditional music expression in the north of the State. The festival is staged the week after the Huon festival, so many performers take advantage of the timing to appear at both.

The 2 festivals are important signs of the strength of folk music in Tasmania, showing an interest which started in the middle sixties and has continued to this day. They have been the stepping stones for many Tasmanian acts to develop and go further afield.

Peter Dombrovskis

Max Angus

Peter Dombrovskis (1945–1996) was an exceptionally gifted nature photographer. From boyhood he had climbed steadily through the ranks to reach the pinnacle of success in his chosen profession. His work is respected by his colleagues and warmly appreciated by the public at large. The works that appeared in his self-published books, diaries, calendars, posters and cards are reproduced from the selfsame photographs that grace the walls of State galleries, institutions and private collections in Australia and abroad. His sublime photographs unquestionably played a significant part in the campaign that saved the Franklin River. Indeed, Tasmanian people may have been more impressed by the visual images produced by Peter Dombrovskis than they were by the endless newspaper reports of conflicting political views on conservation.

It is no idle thing to say that 'one picture is worth a thousand words'. Words may be distrusted; a picture remains mute. Of course an ill-considered picture may fail to impress, but why do we feel, at once, that a Dombrovskis photograph is of the first rank?

Peter Dombrovskis approached his subject with something like reverence. He considered the possibilities. He never forced a conclusion or resorted to the mere quick-fire snapshot. He preferred the subject to take possession of his heart and mind. He knew that great photographs are the result of a relaxed, passive receptivity combined with an alert overview of the whole process. Beyond this is good technique and the use of fine equipment. All his photographs were taken on a large format 5X4 Linhof Flatbed field camera.

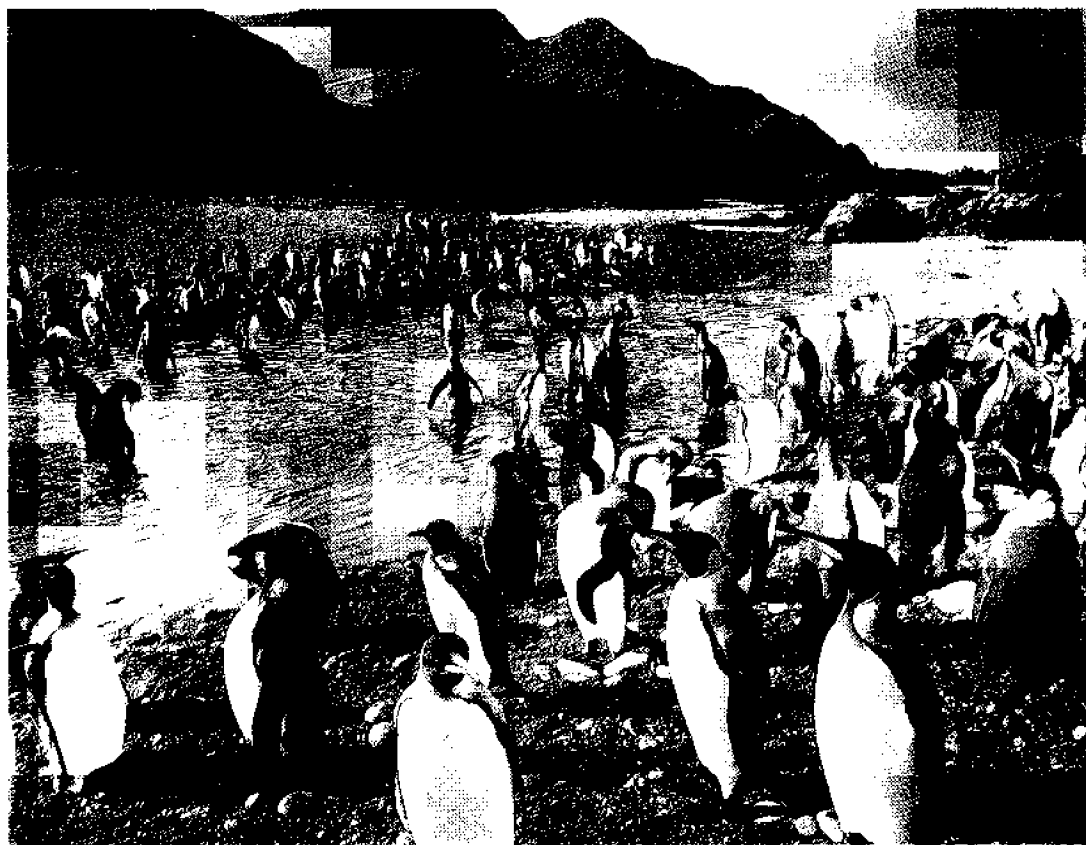
We cannot scientifically 'prove' that beauty exists, no matter how persuasive the theory.

Generally, we acquire aesthetic enjoyment and judgement slowly, often from the wordless examples of painters, photographers, musicians and dancers. Thousands upon thousands of Tasmanians have, over the past 25 years, grown almost unaware that their visual perceptions of the Tasmanian landscape have been heightened by constant exposure to Peter Dombrovskis' photographs.

Peter Dombrovskis was born in a refugee camp in Wiesbaden, Germany, of Latvian parents in 1945. His father was lost in the last months of World War II. Peter and his mother, Adele Dombrovskis arrived in Australia as migrants in 1950, and moved to Hobart in 1951, where they settled on the slopes of Mount Wellington. Together they roamed its ferny tracks and climbed its crags. Then Adele bought her son his first camera.

Later, as a teenager, his work was noticed by Olegas Truchanas, Lithuanian-born pioneer conservationist and nature photographer. For the young Dombrovskis, Truchanas became an inspiring father-figure, who predicted that Peter would 'become one of Australia's great photographers'. Olegas Truchanas died in 1972. From this time onward Peter Dombrovskis trod his own path with quiet resolution. His superb photographs, produced year upon year, were unmistakable.

Then, on 28 March 1996, while photographing on the Western Arthur Range in Tasmania's south-west, Peter Dombrovskis died of a heart attack. This serene and modest man was mourned across the nation. His legacy to emerging photographers will endure. His influence on his fellow Tasmanians to better understand their island State is incalculable.



King Penguins at Green Gorge, Macquarie Island.
Photographer: Peter Dombrovskis



Pandani in rain, Mount Anne.
Photographer: Peter Dombrovskis



Cushion plants and pandani, Mount Anne.
Photographer: Peter Dombrovskis



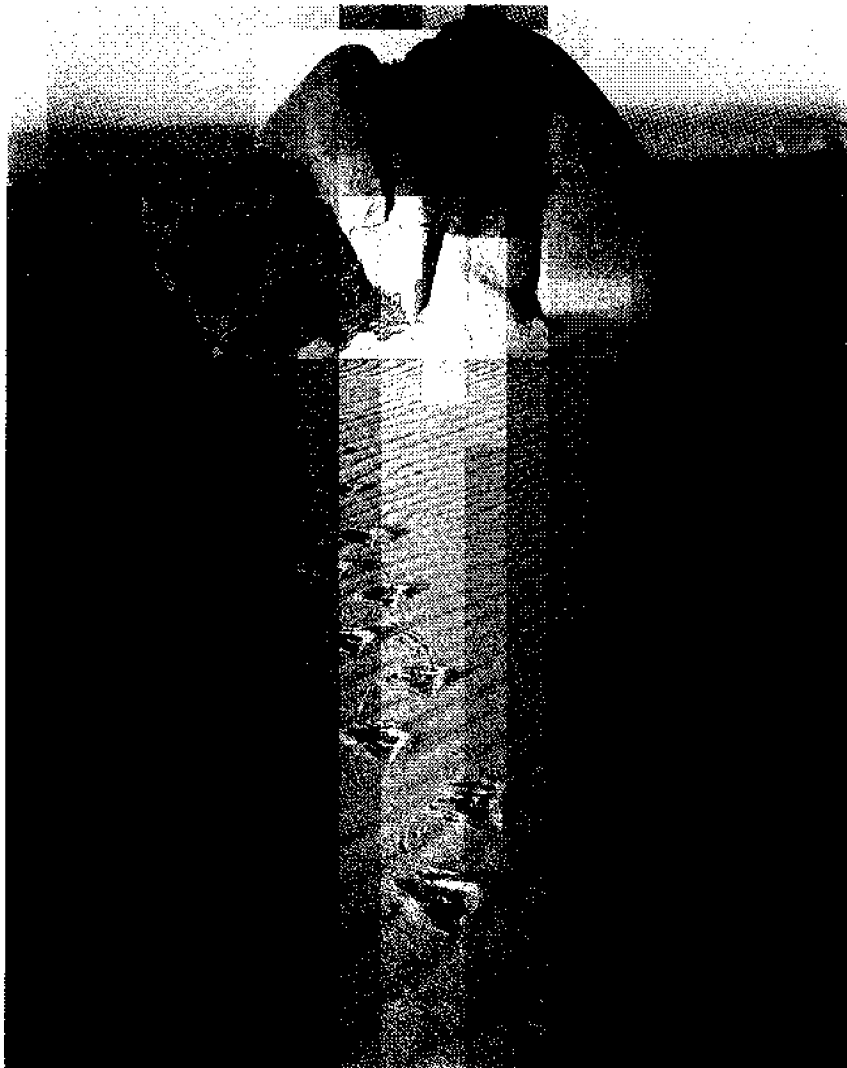
Richea scoparia, Walls of Jerusalem National Park.
Photographer: Peter Dombrovskis



Ice and alpenglow, Cradle Mountain–Lake St Clair National Park.
Photographer: Peter Dombrovskis



Tarn near Cradle Mountain, Cradle Mountain–Lake St Clair National Park.
Photographer: Peter Dombrovskis



Wombat footprints, Tarkine, West Coast.
Photographer: Peter Dombrovskis



Deciduous beech, Cradle Mountain-Lake St. Clair National Park.
Photographer: Peter Dombrovskis

Performing arts

The performing arts sector includes all forms of theatre, dance, opera and music theatre, variety and cabaret. An estimated 15.2% of the Tasmanian population aged 15 years and over (55,800 people) attended a theatre performance, 8.4% (30,700) attended an opera or musical, 6.9% (25,400 people) attended a dance performance, and 18.1% (66,600) attended a performance of other performing arts at least once in the year ended March 1995.

Theatre consists of live performances by actors or puppets, of plays where the entire, or a major part of the performance does not use song and music. Included are alternate, playback, puppet,

fringe, youth and community theatre, theatre sports and theatre of the deaf as well as drama, comedy, mime and theatre-in-education.

The highest participation rate for those attending theatre performances was for people aged 45–54 years (22.3%), closely followed by people aged 15–17 years (22.1%); for dance performances the highest participation rate was also recorded for people aged 45–54 years (9.8%); for opera or musicals, the highest participation rate was again recorded by people aged 45–54 years (12.4%); and for other theatre performances it was people aged 25–34 years (27.3%).

PERSONS ATTENDING PERFORMING ARTS, 12 MONTHS TO MARCH 1995

Performances	Tasmania		Australia	
	Number '000	Participation rate %	Number '000	Participation rate %
Theatre	55.8	15.2	2 336.3	16.6
Opera or musical	30.7	8.4	2 722.1	19.3
Dance	25.4	6.9	1 407.5	10.0
Other performing arts	66.6	18.1	2 634.4	18.7

Source: ABS catalogue no. 4114.0

Salamanca Theatre Company

Deborah Pollard

Salamanca Theatre Company is one of Australia's oldest 'theatre for young people' companies. Originating from the *Theatre in Education* company established in Tasmania in 1972, the Salamanca Theatre Company has been providing quality theatre in schools around Tasmania for 25 years.

In addition to an annual touring season which brings performances to over 30,000 children and adults, the Company also runs residencies and workshops in schools, assisting them to develop their own productions and tailor theatre that is relevant to the local community.

The Salamanca Theatre Company has received recognition for its achievements in youth theatre; in 1988 the award of the Sidney Myer Performing Arts Award acknowledged the Company as a leader in its field. In 1992, the Company received the Australian Human Rights Award for Drama for its production of 'Highest Mountain, Fastest River', a story of the epic journey to Tasmania of the Hmong people of northern Laos.

To create work that remains relevant and entertaining to youth audiences, the Salamanca Theatre Company is dedicated to researching its material directly with young people. The Company uses media such as technology, contemporary music and art to stimulate, challenge and communicate with a youth market.

FURTHER READING

ABS publications

- Attendance at Selected Cultural Venues, March 1995* (4114.0)
Cultural Funding, Australia, 1994-95 (4183.0)
Business of Music, Australia (4143.0)
Business of Music, Summary, 1995-96 (4142.0)
Employment in Selected Culture/Leisure Occupations, Australia, August 1991 (6273.0)
How Australians use their Time—Selected Findings from the 1992 Time Use Survey, Australia (4153.0)
Music and Performing Arts, Australia, 1991 (4116.0)
Music and Performing Arts at Major Venues in Capital Cities (4171.0)
National Aboriginal and Torres Strait Islander Survey 1994, Detailed Findings (4190.0)
National Aboriginal and Torres Strait Islander Survey 1994, Regional Overviews (4192.0)—
includes *Regional Overview of the Hobart ATSI Region* (4192.0.40.029)
Social Indicators, Australia, 1992 (4101.0)
Time Use in Culture/Leisure Activities, 1992 (4173.0)

Other publications

- Australian Heritage Commission, *Annual Report 1995-96*
Centenary of Federation Advisory Committee, *2001 A report from Australia*
Department of Education, Community and Cultural Development, *Annual Report 1995-96*
Queen Victoria Museum and Art Gallery, *Annual Report 1995-96*
Tasmanian Museum and Art Gallery, *Annual Report 1995-96*

Acknowledgments

- Andrew Ross, Theatre Royal
Deborah Pollard, Salamanca Theatre Company
Jean Gray, Royal Tasmanian Botanical Gardens
John Holton, West Coast Pioneers' Memorial Museum
Liz Dombrovskis, West Wind Press
Max Angus
Mike Raine
Steve Ray

CHAPTER 11

Sport and recreation

Photo: The Examiner



Over 800 riders and family members attended the 8th annual meeting of the Tasmanian Mountain—Cattlemen's Championships at Campbell Town in February 1996.

Tasmanians have a great love for the outdoors. This could partly derive from their maritime history and their love of the ocean. It could also partly derive from how their history has been shaped by habitation of a rugged and remote island. Sporting custom and folklore are deeply etched within the Tasmanian psyche. Sport is an important part of Tasmanian life and of being Tasmanian. Tasmania provides residents and visitors with abundant opportunities to take part in sport and recreational activities either directly as participants or indirectly as spectators, as Tasmanians have some of the best sport and recreation opportunities in the country.

A number of the major sports, as well as many of the lesser ones, are played here with levels of participation ranging from social to elite. Some sporting facilities rival the best in the nation and the natural environment provides unique opportunities for outdoor activities.

While Tasmanians are also becoming more aware of the physical, social and psychological benefits that can be gained through satisfying physical activity, there are important social and economic benefits that also extend to the wider community.

The economic benefits of sport and recreation and the link between participation in physical activity and health provides an incentive for governments at all levels to support the sport and recreation industry through the provision of opportunities for participation and the provision of facilities. These allow Tasmanians to have easy access to a diverse range of sporting facilities and recreational pursuits.

Sport

Involvement in sport

In 1995-96 a comprehensive national survey measured frequency of participation in various sports. Amongst the main results was that during the year 30% of the population, or almost 4.3 million people, participated in an organised sport or physical activity. In Tasmania, 33% of the population (118,400 people) participated in an organised sport or physical activity. This made Tasmania the third most active State.

Tasmanian males had a higher participation rate than females: 37.3% of males participated in an organised sport or physical activity compared with 28.9% of females. Participation rates were highest for the younger age groups and steadily declined with age. Females from the 25-34 year age group had the highest participation rate for Tasmania at 39.4%, whilst males from the 15-19 age group had the highest participation rate of 54.9%.

SPORT PARTICIPATION RATES, TASMANIA, 1995-96

Years of age	Males %	Females %	Persons %
15-24	54.9	37.7	46.5
25-34	45.8	39.4	42.6
35-44	37.3	27.7	32.4
45-54	28.9	27.7	28.3
55-64	24.8	23.9	24.3
65 and over	21.5	14.0	17.3
Total	37.3	28.9	33.0

Source: ABS catalogue no. 4177.0

Most popular organised sport

Aerobics and golf had the highest participation rates in Tasmania (4.3%) for all persons, followed by netball (2.9%) and Australian Rules Football (2.2%). Other sports with relatively high participation rates were cricket (2.1%) and lawn bowls (2.0%). Aerobics and golf were also the two most popular sports in Australia with participation rates of 4.8% and 3.2% respectively.

The most popular sport for Tasmanian males was golf with a 7.0% participation rate, followed by Australian Rules Football (4.3%), cricket (4.1%), lawn bowls (2.4%) and sailing (2.3%).

The most popular sport for Tasmanian females was aerobics (7.8%), followed by netball (4.5%) and tennis (2.4%).

PARTICIPATION IN MOST POPULAR ORGANISED SPORT AND PHYSICAL ACTIVITIES, TASMANIA, 1995-96

Sport/activity	Persons (a) '000	Persons (b) %
Aerobics	15.6	4.3
Australian Rules Football	7.9	2.2
Basketball	5.3	1.5
Cricket (outdoor)	7.5	2.1
Golf	15.3	4.3
Hockey (outdoor)	5.1	1.4
Lawn bowls	7.1	2.0
Netball	10.4	2.9
Sailing	5.2	1.4
Tennis	6.5	1.8

(a) Persons aged 15 and over. (b) Percentage of the civilian population aged 15 years and over.

Source: ABS catalogue no. 4177.0

Expenditure

The survey also found that participants spent \$85.1 million on sport and physical activities in Tasmania during 1995-96. The main areas of expenditure were equipment and clothing (\$34.2 million), transport and weekly fees (\$27.9 million), and membership (\$12.3 million).

Each participant spent an average of \$719 during 1995-96 compared to a national average of \$652.

The average costs for the most popular activities per person were aerobics (\$305), golf (\$715), netball (\$218) and Australian Rules Football (\$344).

The most expensive organised sport or physical activity for people aged 15 and over was sailing (\$1884). The cheapest sporting activity was netball, with an average cost per participant of \$218 for the year.

Sports attendance

A survey of sports attendance was undertaken in 1995 and collected data on the number of people who had attended a sporting event as a spectator at least once in the previous twelve months. The survey excluded those under 15 years of age, and attendance at junior and school sport.

The survey found that 172,600, or 47% of Tasmanians aged 15 years and over, attended a sporting event during the year. More males attended a sporting event (54.7%) than females (39.6%). For both males and females attendance rates were highest for the 15-24 age group (62.3%) and steadily declined with each subsequent age group. For persons 65 years and older the attendance rate was 23.2%.

ATTENDANCE AT SELECTED SPORTS, 1995

Sport	Males %	Females %	Persons %
Australian Rules Football	30.6	15.2	22.8
Rugby League	1.2	0.5	0.8
Cricket	16.5	5.6	10.9
Basketball	6.6	6.5	6.5
Soccer	1.7	1.4	1.6
Motor sports	7.8	1.5	4.6
Tennis	1.6	1.2	1.4
Rugby Union	1.2	0.5	0.8
Netball	1.2	4.3	2.8

Source: ABS catalogue no. 4174.0

EXPENDITURE ON SPORT AND PHYSICAL ACTIVITIES, TASMANIA (a), 1995-96

	Membership \$m	Transport and weekly fee \$m	Equipment and clothing \$m	Other expenses \$m	Total expenditure \$m	Average per participant \$
Aerobics	1.9	2.1	0.7	—	4.7	305
Australian Rules Football	0.2	1.5	0.9	0.2	2.7	344
Basketball	0.2	1.3	0.6	0.2	2.3	425
Cricket (outdoor)	0.3	0.9	0.7	0.1	2.0	269
Golf	3.6	3.1	3.9	0.3	10.9	715
Hockey (outdoor)	0.4	0.4	0.4	—	1.2	229
Lawn bowls	0.7	0.9	0.4	0.4	2.4	339
Netball	0.4	1.1	0.6	0.2	2.3	218
Sailing	0.7	0.4	7.5	1.1	9.8	1 884
Tennis	0.4	0.5	0.5	—	1.4	220
Total (b)	12.3	27.9	34.2	10.6	85.1	719

(a) Persons aged 15 years and over. (b) Includes activities not listed.

Source: ABS catalogue no. 4177.0

Australian Rules Football was the most watched sport in Tasmania with 22.8% of the population attending. This was far ahead of the next most popular sport, cricket, 10.9%. The two least-watched sports of those listed were Rugby League and Rugby Union.

Government support for sport

The Tasmanian Government, through the Office of Sport and Recreation and the Tasmanian Institute of Sport, stimulates sporting activity in a number of ways. It seeks to:

- encourage participation;
- support the development of sport and recreation organisations;
- support local and regional planning for the provision of infrastructure and services; and
- improve the performance of elite athletes.

The Office of Sport and Recreation deals with local government and almost 100 major sport

and recreation organisations including peak bodies. These include TasSport, Tasmanian Outdoor Leadership Council, Tasmanian Outdoor Recreation Council, The Health and Fitness Alliance, and the Tasmanian Coaching Centre.

Policies for development

The national Active Australia program has strongly influenced State government sporting policies. The goals of Active Australia are to:

- increase and enhance lifelong participation;
- assist people to realise the social, health and economic benefits of participation; and
- develop quality infrastructure, opportunities and services to support participation.

These goals link sport and recreation development and the provision of quality opportunities with participation by people of all ages. The role of government has increased over recent years due to its recognition that the sport

and recreation industry can deliver significant health, physical, social and economic benefits to individuals and the community.

One of the Tasmanian Government's major policy objectives is to have a supporting rather than a direct role in determining priorities and directions. A major development was the establishment of the Sport and Recreation Advisory Board, which helps the industry to have input into Government policy and priorities. It is the first time in Tasmania there has been a structure directly linking Government to the sport and recreation industry and community.

The Office of Sport and Recreation also works directly with sport and recreation organisations, assisting them to plan and evaluate their services, and facilitate education and training using programs such as the Volunteer Involvement Program, and Aussie Sport. Work is also being undertaken in partnership with local government to plan and develop facilities, programs and services on a coordinated regional basis.

Through the Office of Sport and Recreation, the Tasmanian Government funds numerous sporting and recreational bodies. Funding is allocated according to criteria established for each program. The State Government provided just over \$1 million in sport and recreation development grants for the 1995-96 financial year.

SPORT AND RECREATION DEVELOPMENT GRANTS, TASMANIA, 1995-96

	Grant \$
Sport development	486 200
Junior sport	23 920
Volunteer Involvement Program	800
School holiday recreation activities	3 914
Recreational development grants	212 500
Coaching	10 350
Minor capital works	47 400
People with a disability	5 500
Women in Sport and Recreation	16 320
Community sport and recreation Programs	304 950
Community outdoor recreation initiatives	5 000
Total	1 116 854

Source: Department of Education, Community and Cultural Development, Annual Report 1995-96

Policies to increase participation

A primary policy objective of the Office of Sport and Recreation is to increase sport and recreation participation, and development. Another policy objective is to raise community awareness of the value of a healthy active lifestyle through sport and recreation. The reason for this is that increased awareness invariably increases activity in sporting and leisure activities.

As participation is a personal choice, policies aim to provide opportunities for people to be involved in satisfying activities. The key policy principle is that of equity and access. A priority exists for fostering opportunities for older people, youth, women, and people with a disability to participate in community recreation, fitness activities, sport, outdoor recreation, and other forms of physical activity.

Participation can range from involvement in highly structured sport and recreation through to physical education. It also involves an appreciation of the role of those who organise their own physical activity according to their own interests and needs. Settings vary from walking trails through to gyms, ovals and international standard sporting facilities.

Women in sport and recreation

The Women in Sport and Recreation Policy provides a framework for the actions of the Office of Sport and Recreation. It also guides State sporting organisations with respect to the future involvement of women and girls in sport.

The policy includes:

- direction on participation;
- direction on administration and leadership;
- use of the media; and
- development of sponsorship and awareness programs for lifestyle and fitness.

The key areas of policy that the Government will be focusing on in the next two years will be to:

- increase opportunities for women to participate in sport and recreation;
- encourage women to take on leadership and decision making roles; and
- ensure that women's achievements in sport and recreation are recognised and equitably rewarded.

Aerobics

In 1995–96, a survey found that aerobics was the most popular sporting activity in Tasmania. About 15,600 people took part in an aerobic activity in the 12 months prior to the survey; 91% of these participants were female. This made aerobics the most popular type of physical activity for females. However, it was the least popular for Tasmanian males. This was a result that was experienced Australia-wide: aerobics was the most popular sport nationally, and it was dominated by females (81% of aerobic participants Australia-wide being female).

Aerobics refers to the aerating of the blood through continuous rhythmic exercise. Aerobic exercise improves the heart's capability to transfer oxygen to the working muscles. Early on in the 1980s it was heavily callisthenic- and exercise-based but with innovators such as Jane Fonda and Jackie Sorensen in the US emphasising the dance aspect of aerobics, Australian aerobics moved in the same direction.

Now many variations of the original aerobics style have been developed to suit the different types of people that participate in aerobic activity, ranging from beginner to advanced. These styles include high and low impact aerobics, cardio-funk, step and water aerobics. Classes in these types of aerobics are conducted on a daily basis in many health and fitness clubs State-wide.

Aerobics has now established a strong base in community recreation programs and is a significant component of school fitness curriculums. The livelihood of many health and fitness clubs is dependent on its aerobic

program. Training programs have been developed for instructors as part of the national Fitness Leader program in an aim to formalise the industry and now many people can make a career out of conducting and running aerobic classes.

As well as being a popular fitness activity, aerobics has also developed into a competitive sport. However, most Tasmanians that participate in the sport tend to participate not for the competitive side but for the benefits that they will gain by participating in a satisfying physical sporting activity. The major benefit of undertaking aerobic activity is to improve cardiovascular (aerobic) fitness. This helps to prevent coronary heart disease and circulatory and respiratory problems. It is also a useful tool for weight control.

Another benefit of aerobics is that it proves to be a relatively inexpensive sport. The survey in 1995–96 found that the average cost per participant was \$305. This consisted of membership costs, transport, weekly fees, equipment and clothing.

Levels of participation in aerobics is also up to the individual. It could range from as infrequently as once a month through to five times a week. Hence, many costs fluctuate. Most classes run for an hour and are on at varying times throughout the day, enabling a wide cross section of people to participate. Aerobics is also a sport that individuals are able to tailor to their own physical development needs, and benefit accordingly. This goes some way to explaining its popularity.

Older people

The Office of Sport and Recreation will also encourage older people in sport through increased opportunities and awareness. The current approach is to foster an 'active for life' ethos, recognising the specific needs of sub-populations within the broader population of older people.

Youth

A number of initiatives exist to provide sport and recreation opportunities for young people. Examples of these include Project Hahn and the Palawa Recreation Program.

Through the use of outdoor adventure and challenge activities, Project Hahn aims to facilitate maturational development in young people for their psychological, social, personal and physical well-being. It is essentially a primary intervention program focusing on supporting young persons who are at risk or disadvantaged due to personal circumstances, location or economic conditions. The aims of the program include developing self-esteem and confidence, communication skills, conflict resolution skills, team work, and leadership skills.

The Palawa Recreation Program was developed in response to issues identified following a needs analysis conducted with the Tasmanian Aboriginal community. The program's main aim is to increase the participation and involvement of Aboriginal youth in sport and recreation pursuits. It also aims to raise individual and community self-esteem, participation and decision making through involvement in quality sport and recreation activities with a cultural focus.

More specifically, the objectives of the Palawa Recreation Program are to:

- promote opportunities for young Aboriginal people to participate in, and lead, recreation activities that focus on individual culture and the development of relevant skills;
- assist Aboriginal groups to design, run and evaluate their own outdoor recreation activities;
- facilitate the involvement of disadvantaged Aboriginal youth; and
- use expertise within the Aboriginal community and promote its development where necessary.

Tasmanian Institute of Sport

The Tasmanian Institute of Sport (TIS) provides specialised services and support to Tasmania's elite athletes, coaches and sporting organisations to assist them in achieving excellence in sport. In 1995-96, 24 athletes were awarded scholarships totalling \$52,500, 6 elite development squads received a total of \$63,400 and 3 intensive training centre programs were granted \$146,400.

Other programs undertaken by the TIS include the Athlete Career and Education program. This assists elite athletes with career development and gives support for those making the transition from elite athlete to another career.

Over 70% of TIS scholarship holders used this program during the year. To further assist athletes, the TIS was awarded laboratory accreditation in 1996, allowing the institute to provide international standard sports science testing services to athletes and programs. They are one of only five laboratories in Australia to achieve this status.

The achievements of TIS athletes are eminent due to the development of elite sport programs allowing athletes to achieve their potential: 25 athletes won Australian Championships in 1995-96 and 47 were selected to national teams. TIS athletes who gained placings at international competitions were Melissa Carlton, Sean Sullivan, Brett Partridge, Sarah Fitzgerald, Daniel Sproule, Craig Walton, Michael Harkness, Clint Freeman and Tim Hawkins.

Children's sport

During 1995-96, 57.9% of 5-14 year olds, (41,700 children) participated in at least one sport or physical activity. Of these, 33.8% of children (comprising 37.4% males and 29.9% females) participated in activities organised by school after school hours. This is 12.2% higher than the national average of 21.6%. Some 45.6% of male children and 36.4% of female children participated in club-organised sport or physical activities, for a total of 41.1% participation. This is significantly lower than the Australian average of 53.5%. In fact, Tasmanian children were the least active in this area.

Through the Aussie Sport program, the Government is able to encourage sporting participation as part of the school curriculum. The Australian Sports Commission developed the Aussie Sport program as a national junior sports initiative committed to the development of young people through sport. There are a range of programs under the Aussie Sport program and a range of resources available to assist teachers, coaches and parents provide quality junior sport. During the 1993-94 financial year the government renegotiated with the Australian Sports Commission to support the Aussie Sport program for the next three years, taking it up to 1996-97.

Other strategies aimed at developing junior sport by the Tasmanian Office of Sport and Recreation involve working closely with sporting bodies to develop practices which will enhance the sporting opportunities of younger people. Six priority sports have been targeted: athletics, Australian Rules Football, basketball, cricket,

netball and soccer. The primary aims of this strategy are to establish structures for junior development within the sport and to ensure that appropriate development experiences are offered to various age groups. Strategies include:

- developing effective communication links with schools, clubs and the community;
- providing clear pathways and opportunities for participants to continue their involvement in the sport at a level appropriate to their needs; and
- establishing and promoting desirable behaviour standards for participants, coaches, parents, administrators and spectators.

A Young Persons Sport and Recreation Grants Program exists to provide funds to organisations to assist the development and promotion of sport and recreation activities for young people.

Sports industry

A survey of businesses involved in sport, recreation and gambling activities was undertaken during 1994–95. It found that Tasmania has 230 employing businesses from 3 main areas:

- the horse and dog racing industry;
- the sports ground and facility industry (e.g. athletic and football grounds operation); and
- the sports and services to sports industry (i.e. sporting clubs or associations, sports administration services, sports coaching services etc.).

These industries employed a total of around 2663 people at an average of 11.6 people per business and generated \$64.7 million in gross income annually.

In addition, there are many other organisations that were directly or indirectly involved in sport that were not employing businesses, and were not in the scope of this survey. Volunteer groups are the backbone of many sport and recreation organisations and they have adopted an increasingly professional outlook. This is supported by an expanding network of professionals within government, private industry and community groups.

Sporting achievements

For a State with a small population, Tasmania has had an impressive array of sports men and women and teams who have achieved national or international success. As well as this, Tasmania has played host to a number of national and international sporting events.

American yacht *Sayonara* won the 630 nautical mile Sydney–Hobart Yacht Race in 1995. The IMS overall handicap winner was Victorian yacht *Terra Firma*.

Michael Harkness and Clint Freeman were members of the Australian Archery Team that gained third place at the 1995 World Archery Championship Teams Event in Indonesia.

David Boon ended a thirteen-year international cricket career in February 1996 finishing with 7422 test runs at an average of 43.66. He had played a total of 107 matches with a highest test score of 200, ranking him second only to Allan Border as the most capped Australian.

The games of the XXV Olympiad held in Atlanta, Georgia from 19 July to 4 August was the most eagerly awaited and watched event on the 1996 sports calendar. Tasmanians brought back five bronze medals.

KEY AGGREGATES BY SPORT INDUSTRY, 1994–95

Industry	Businesses no.	Employment no.	Gross income \$m
Horse and dog racing	34	345	17.0
Sports grounds and facilities n.e.c.	45	559	12.8
Sports and services to sports n.e.c.	150	(a) 1 759	34.9
Total	230	2 663	64.7

(a) Subject to high standard errors and should be used with caution.

Source: ABS catalogue no. 8686.0

Among them was Scott Goodman who won a bronze medal at Atlanta in the 200m butterfly. Before the Olympic Games, he had been the only Tasmanian to gain a first place at the Australian Open Swimming Championships at the Sydney International Aquatic centre in April 1996, also in the same event. In 1995 he also won gold in the 200m butterfly at the World Shortcourse Swimming Championships.

At the 1996 Cycling National Track Titles, Tim O'Shannessy beat a class field to win the 4000m individual pursuit. He was also a member of the 4000m team pursuit which gained first place at these track titles, and the bronze medal in this event at the Olympics.

Carla Boyd was part of the women's basketball team that had its best ever result in Atlanta, winning the bronze medal.

Sprint Kayaker Daniel Collins also won a bronze medal in Atlanta in the K2 500m.

Daniel Sproule was a member of the Australian men's hockey team that won a bronze medal in Atlanta. He was also a member of the Australian hockey team when they gained second place in the 1995 Champions Trophy.

Melissa Carlton won seven first places at the 1996 Atlanta International Swim Trials followed by two gold medals at the 1996 Paralympic Games in Atlanta. These were in the 400m freestyle, and as a member of the 4x100m relay team.

Clarence defeated the Burnie Dockers in the 1996 Grand Final of the Tasmanian Football League in front of a packed crowd at North Hobart Oval.

The Tasmanian Sporting Hall of Fame was inaugurated during 1988 in recognition of those who represented their State or nation with distinction. During 1996, Edgar (Ted) McDonald (cricket) and Michael Wilson (cycling) were inducted into the Hall of Fame.

Tasmanian rowers were also successful. At the 1996 Australian Rowing Championships, Darren Balmforth was a member of the team that won the lightweight quad scull; Simon Burgess was a member of the team that won the lightweight coxless four. The two combined to win the lightweight coxless pair. Simon Burgess was also a member of the Atlanta Olympic rowing team in the lightweight coxless four.

Tim Hawkins was a member of the Australian team that gained third place at the 1996 Nations Cup Rowing Championship.

The North West Boags Originals were crowned Australia-wide CBA Champions in front of a packed Devonport crowd after beating the Knox Raiders.

John Bowe had a very successful year in 1995 winning the Australian Touring Car Championship. In the 1996 Australian Touring car championship he had wins at Eastern Creek, Sandown and Mount Panorama.

The Tassie Devils disbanded in 1996, after it was announced in June that the licence of the perennially financially strapped Devils was to be revoked by the National Basketball League (NBL). The NBL had decided there were no signs that the club was able to permanently resolve its insolvency problems. This was after they had had a promising season, finishing in twelfth position. Even though they won only 8 out of 26 games, they defeated some of the top teams and showed great potential at the end of the season. David Stiff from the Devils topped the league with the most defensive assists for the NBL.

After much controversy about the state of the athletic track at the Queens Domain in Hobart, it was upgraded to meet international standards. At its first meet after the upgrade, British Olympic Gold medallist for the 100m, Linford Christie, ran.

Jim Richards and Barry Oliver beat a quality field to become Targa Tasmania champions in May 1997.

The line honours winner of the 1996 Sydney-Hobart Yacht Race was *Morning Glory*.

The combined Tasmanian Football League team defeated the Western Australian Football League by 47 points at the North Hobart Oval during June 1997, further enhancing the credibility of Tasmania's push for a State team in the Australian Football League.

David Boon

David Boon walked off the international cricket arena for the last time in 1996, ending an illustrious international career spanning 13 years. Boon is arguably the best cricketer this State had ever produced. He scored 7,422 test runs at an average of 43.66. He is second only to Allan Border as the most capped Australian. Boon is known for his exceptional cricketing ability and as a man of enormous strength, compassion and quiet determination, which made him a hero for all Australians.

He grew up in a sporting environment. His mother was an Australian hockey representative. His father was a keen all-round sportsman. From a young age Boon exhibited amazing natural ability. He was first noticed at the age of 10 by former Lancashire spinner Jack Simmons who encouraged him to develop his enormous potential. By the age of 15, Boon was a member of the Tasmanian under 19 team and at age 16 was selected for the Australian under 19 schoolboy team to tour England in 1977, scoring a century at Lords.

Boon made his Sheffield Shield debut for Tasmania at the age of 17, the same year the team entered the competition. In 1984, he was selected for the Australian one-day team after he had scored 134 runs in 135 minutes in a match for the Prime Ministers XI against the West Indies. In the last final of the one-day series at the MCG against the West Indies he scored 39.

Boon gained his first test cricket spot in the season of 1984–85. It was also during this season he gained the captaincy of the Tasmanian Sheffield Shield side. In 1985 he was presented with the Sheffield Shield Player of the Year Award even though he played only 6 of the 10 matches. He was then selected for the Ashes tour.

He continued his test career on his return to Australia and in December scored his maiden

test century of 123 at the Adelaide oval against India, after being asked to open the innings by selectors. This made David Boon the first Tasmanian resident to score a test century.

Boon's first major setback came in the summer season of 1986–87 when he was dropped from the test team due to a lack of form. However, by mid-1987 Boon had regained some form to be selected in the World Cup team to tour India where he won four man of the match awards including one in the final.

In the summer season of 1987–88 he was awarded International Cricketer of the Year after an outstanding season. He played one of his most notable innings that season at the Sydney Cricket Ground against England, scoring 184 not out in the Bicentennial Test, leading to yet another man of the match award.

In 1989 Boon was awarded a Member of the British Empire (MBE) in recognition of his sporting achievements. It was also in this year that Boon hit a four to produce the winning runs needed for Australia to win the Ashes. This was the first time the Ashes had been won on English soil since Don Bradman's team toured in 1948. Boon was again honoured in 1991 when he had the main grandstand at the Northern Tasmanian Cricket Association ground named after him. This was the ground of his original team, Launceston.

Boon was known as 'The Rock of Gibraltar' for the Australian side. He carried a burden of expectation every time he went out to bat, based on his previous successes.

When his international career finished in 1996, he was able to look back on an enviable test career spanning 13 years, including three Ashes tours in 1985, 1989 and 1993, and 2 World Cups.

Recreation

Tasmanians are becoming more aware of the physical, social and psychological benefits that can be gained through participation in satisfying leisure activity.

A survey in 1993–94 showed that the average weekly household expenditure on recreation represented \$77.98 or 14.6% of Tasmanian household expenditure. This was a 3.1 percentage points increase from 1988–89 when only 11.5% of Tasmanian household expenditure was spent on recreation.

The figures for Australia showed that Australian households spent 13.2 % of expenditure on recreation in 1993–94.

There is now increased knowledge of the benefits of fitness activity, including that healthy people are more likely to live longer and have a reduced chance of serious health problems, for example, heart disease. This increased knowledge is largely attributable to media campaigns.

The diversity of Tasmania's outdoor areas

encourages many people to explore our mountains, forests, inland waters and coastal regions. Being a small State some of the best places in the world for camping, fishing, bushwalking, boating, scuba diving, kayaking and rafting, climbing, and cross-country skiing are a relatively short distance away.

Bushwalking is a popular recreation activity. In 1996, over 20,000 people spent a total of 35,000 nights camped out in the bush. The most popular track was the Overland Track from Cradle Mountain to Lake St Clair with approximately 5,000 people completing the walk in 1996.

Along with an increased awareness of the benefits of recreational activities comes new types of recreational activities. These include rollerblading, mountain-bike riding, rock climbing and snow boarding. Other outdoor activities are also expanding to meet with the increased popularity. In 1996, Hobart opened its first rock climbing centre, and walking and cycling tracks are being developed by councils State-wide to encourage participation by residents.

FURTHER READING

ABS publications

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Acknowledgments

Sue Wragge, Office of Sport and Recreation

CHAPTER 12

Health



Photo: Drew Fitzgibbon

In the 12 months that employees at Launceston's Boral Timber Yard had been doing group stretching exercises (1995-96), there was no sick leave recorded for muscle strain or sprains. In the previous year, 50% of work injuries were muscle soreness.

Throughout history people have always endeavoured to protect their health, at first by devising techniques and selecting special individuals to ward off 'evil spirits'. Observation and experience gradually identified ways for keeping well. Laws were developed to govern health and, as large communities developed, methods of sanitation were devised. But it was not until the 1800s with the discovery that germs caused disease, that significant advances in society's understanding of illness, and the ability to successfully treat it, were made.

Today, many health problems are the result of lifestyle or environmental factors that are themselves amenable to change. Health promotion and disease prevention appear to be the key to further improvements in the health of Tasmanians.

Yet, for all the knowledge and resources now directed towards attaining good health, death,

disease, injury and illness are still part of everyday life.

Mortality

In 1995 the deaths of 3,754 resident Tasmanians were recorded. This was 157 less than the 1994 figure of 3,911, and represents a crude death rate of 7.9 per 1,000 mean population. Of the deaths, 1,952 were males and 1,802 were females, a ratio of 108 male for every 100 female deaths.

Up until age 75, male deaths outnumbered female deaths. The reversal in the 75 and over age group occurs because of the higher number of females of that age in the population. In most groups the age-specific death rate of males is higher than that of females and for many age groups the male rate is almost twice the female rate.

DEATHS, TASMANIA, 1995

Age group years	Males no.	Females no.	Persons no.
Under 1	27	11	38
1-4	4	—	4
5-14	9	2	11
15-24	37	14	51
25-44	99	56	155
45-54	108	79	187
55-64	215	143	358
65-74	541	343	884
75-84	595	601	1 196
85 and over	317	553	870
Total	1 952	1 802	3 754

Source: ABS catalogue no. 3312.6

AGE-SPECIFIC DEATH RATES, TASMANIA, 1995

Age group years	Males deaths/'000	Females deaths/'000
Under 1	7.80	3.37
1-4	0.29	—
5-14	0.24	0.06
15-24	1.06	0.42
25-44	1.41	0.79
45-54	3.68	2.77
55-64	10.65	7.02
65-74	32.57	18.49
75-84	77.14	52.06
85 and over	208.55	157.06
All ages	8.32	7.56

Source: ABS catalogue no. 3312.6

Causes of death

The great killers of earlier times, such as gastroenteritis and pneumonia among young children and tuberculosis at all ages, now comprise only a very small proportion of all fatalities. In recent years the trend has been for a declining frequency of deaths under the age of 40 years.

Infant mortality has declined dramatically in Tasmania during this century. In 1900 the infant mortality rate was 80 deaths per 1,000 live births, down from well over 100 in the 1880s.

By 1975 the infant mortality rate had declined to 18.3 and by 1995 to just 5.8. This low 1995 rate followed rates of 5.9 in 1993 and 7.5 in 1994. In recent years, results of the Menzies Centre's research into sudden infant-death syndrome (SIDS) has contributed to recent reductions in the infant mortality rate. Most infant deaths

(children aged less than one year) now occur within the first 28 days after birth (neonatal deaths).

The three major causes of death, (heart disease, cerebrovascular disease or stroke, and malignant neoplasms or cancer), accounted for nearly two-thirds (65.8%) of all deaths in Tasmania in 1995. These were followed by diseases of the respiratory system, 7.8% of all deaths, and accidents, poisonings and violence, 5.6%.

There is a marked variation in the major causes of death in different age groups. The risk of death diminishes considerably after the first year of life. It then increases progressively with increasing age.

Accidents, poisonings and violence are the main cause of death for the 1-14 years age group. For the 15-24 years age group motor vehicle accidents and suicide are the major causes of death. For higher age groups (25-44 years and up) heart disease and cancer are the leading causes of death.

Accidents, poisonings and violence

These were the major cause of death in Tasmania in 1995 for the 1-14 years age group. For the 15-24 years age group, motor vehicle traffic accidents was the cause of 35.3% of deaths. Suicide was the second major cause for the 15-24 and 25-44 years age groups, accounting for 21.6% and 20% of all deaths respectively. As well as differing by age, the relative importance of certain causes of death varies by sex. For all ages, 7.3% of male deaths were due to accidents, poisonings and violence compared with 3.8% of female deaths.

Malignant neoplasms (cancer)

Cancer was the major cause of death for the 25-44 years age group in 1995, accounting for 23.2% of deaths. Cancer remained the major or second major cause of death for all older age groups, being responsible for 47.6% of deaths in the 45-54 years age group (main cause); 44.7% in the 55-64 years age group (main cause); 36.2% in the 65-74 years age group (main cause); and for 19.7% of deaths in the 75 years and older age group (second main cause).

There was a higher rate of cancer among men than women aged 55 years and over. Many more men (136) than women (69) died from cancer of the respiratory and intrathoracic organs, where tobacco smoking is a major factor.

PRINCIPAL CAUSES OF DEATH BY AGE GROUP AND SEX, TASMANIA, 1995

Cause	Males no.	Females no.	Persons no.	Persons (a) %
Under one year				
Certain conditions originating in the perinatal period	12	4	16	42.1
Congenital anomalies	7	5	12	31.6
Sudden death, cause unknown	7	1	8	21.1
All causes	27	11	38	100.0
1–14 years				
Accidents, poisonings and violence	8	1	9	60.0
Malignant neoplasms	1	–	1	6.7
All causes	13	2	15	100.0
15–24 years				
Motor vehicle traffic accidents	16	2	18	35.3
Suicide	8	3	11	21.6
Malignant neoplasms	0	5	5	9.8
All causes	37	14	51	100.0
25–44 years				
Malignant neoplasms	17	19	36	23.2
Suicide	26	5	31	20.0
Diseases of the circulatory system	14	9	23	14.8
Motor vehicle traffic accidents	11	3	14	9.0
All causes	99	56	155	100.0
45–54 years				
Malignant neoplasms	40	49	89	47.6
Heart disease	26	6	32	17.1
Cerebrovascular disease	5	4	9	4.8
Accidents, poisonings and violence	15	9	24	12.8
All causes	108	79	187	100.0
55–64 years				
Malignant neoplasms	86	74	160	44.7
Heart disease	63	24	87	24.3
Cerebrovascular disease	10	7	17	4.7
Diseases of the respiratory system	18	15	33	9.2
All causes	215	143	358	100.0
65–74 years				
Malignant neoplasms	194	126	320	36.2
Heart disease	153	74	227	25.7
Cerebrovascular disease	37	29	66	7.5
Diseases of the respiratory system	57	28	85	9.6
All causes	541	343	884	100.0
75 years and over				
Malignant neoplasms	223	183	406	19.7
Heart disease	312	398	710	34.4
Cerebrovascular disease	90	184	274	13.3
Diseases of the respiratory system	87	80	167	8.1
All causes	912	1 154	2 066	100.0
Total all ages				
Malignant neoplasms	559	467	1 026	27.3
Heart disease	566	509	1 075	28.6
Cerebrovascular disease	144	226	370	9.9
Diseases of the respiratory system	166	128	294	7.8
Accidents, poisonings and violence	142	68	210	5.6
All causes	1 952	1 802	3 754	100.0

(a) Of all deaths in the same age group.

Source: ABS catalogue no. 3312.6

For men, death from cancer of the genitourinary organs (135) was more common than for women (69). Some 77 women died from breast cancer in 1995. For all ages, 566 men (29% of all male deaths) and 477 women (28.5%) died from malignant neoplasms in Tasmania in 1995.

Heart disease

This becomes a major cause of death from the 45-54 years age group and beyond. It accounted for a larger proportion of deaths in older age groups and was the major cause of death for those 75 years and over (34.4% of deaths for that age group).

Cerebrovascular disease (stroke)

Strokes accounted for 13.3% of deaths among people 75 and over in 1995. It is a significant cause of death for people dying beyond the age of 45 years. Between 45 and 74 years more men than women die as a result of stroke. For persons 75 years and over, strokes accounted for 15.9% of female deaths in 1995, compared to only 9.9% of male deaths.

Changes over time

Over the past 20 years, there have been some significant changes in the major causes of death in Tasmania. Deaths from malignant neoplasms (cancer) have increased from 17.8% of all deaths in 1975 to 27.3% in 1995. In 1975, the average cancer death rate per 100,000 of the population was 161 for males and 128 for females; these rates increased to 241 for males and 200 for females in 1995.

The proportion of all deaths from heart disease dropped from 33.9% in 1975 to 28.6% in 1995. Over the same period, the death rate per 100,000 of the population decreased quite dramatically for men, from 313 to 241; for females, the death rate per 100,000 decreased from 238 to 214.

Deaths from cerebrovascular disease (stroke) decreased from 13.3% of all deaths in 1975 to 9.9% in 1995. In the same period, rates fell for both males and females, from 86 to 61 per 100,000 for males and from 131 to 95 per 100,000 for females.

Health expenditure

Expenditure associated with health care constitutes a significant part of the economy. In Australia, total health expenditure was estimated to be \$38.5 billion in 1994-95 (Australian

Institute of Health and Welfare, AIHW). That expenditure amounted to 8.4% of the Australian gross domestic product (GDP) for 1994-95, compared with an estimated 7.6% of GDP on estimated total health expenditure in 1984-85 (AIHW). In comparison, the health expenditure of the United States of America, which has the highest proportionate expenditure on health care of any country, was an estimated 14.5% of GDP in 1995, up from 10.7% in 1985 (Organisation for Economic Co-operation and Development).

Tasmanian health issues

Personal health concerns

According to the State Supplementary Survey of Health Issues conducted in October 1995, an estimated 38,600 Tasmanians aged 15 years and over perceived their smoking habit to be the main thing that affects their health. Arthritis was perceived by 10,400 to be the main thing that affected their health, while allergies affected an estimated 9,000 persons.

The main work related factor identified as affecting Tasmanian's health was stress with an estimated 11,500 persons being affected. All stress (work related, social, and stress not elsewhere classified) affected an estimated 37,500 persons.

In the three months prior to the survey, an estimated 27,900 Tasmanians suffered an injury. 8,100 were injured at home, 6,800 at work, and 6,000 at a sporting event. Leg or foot injuries were the most common with 12,600 people reporting these, followed by back injuries (7,500). Dislocations or strains accounted for 71.0 percent of injuries.

87,500 Tasmanians aged 15 and over, (24.8%) could not identify any factor, either positive or negative, affecting their health.

Skin cancer

According to the 1995 State Supplementary Survey of Health Issues, the estimate of persons whose skin 'always burns and never tans' (an indication of the number of people at risk from skin cancer) was 52,000 persons in Tasmania.

In 1995 an estimated 82,000 Tasmanian males spent 30 hours or more per week exposed to the summer sun. In comparison, an estimated 34,200 females spent 30 hours or more exposed to the sun.

Project aims to help Burnie take heart

Sue Asblin Menzies Centre for Population Health Research

The Menzies Centre for Population Health Research has been involved since July 1996 with the Burnie Take Heart Project in a program that will look at innovative ways of tackling the high rate of heart disease in North West Tasmania, with potential benefits for the cardiovascular health of all Australians.

The projects aims are:

- To provide, at minimum cost, a realistic health intervention model applicable to cardiovascular disease for use with rural communities throughout Australia.
- To provide data and suggest methods of intervention that will help the Burnie and North-West community lower its mortality rate from cardiovascular disease.
- To provide data and suggest methods of intervention that will help lower the mortality rate from cardiovascular disease for Australians generally.

With three years' funding from the Commonwealth Department of Health and Family Services, the project will initially survey 1000 men and women aged 25-64 years from the Burnie area. The participating citizens were randomly chosen, with the approval of the Electoral Office, from electoral rolls.

Among the data to be recorded will be the participants' physical measurements, blood pressure, and blood sugar, cholesterol, and triglyceride levels. Behavioural, and attitudinal survey questionnaires will provide information on subjects' lifestyle, including typical diet and alcohol consumption, smoking habits and physical activity pattern.

A separate but related study will focus on specific community groups outside the selected 1000 participants, including schools, work sites, and GPs. This study aims to identify the factors the community feels are important for consideration in the project in order to improve the effectiveness and relevance of the work.

The answers are expected to shed light on the information provided by the 1000 participants studied, help with interpretations, and possibly prompt the Project Team to look more closely at certain facets of the project.

The survey was carried out between December 1996 and February 1997, followed by a health promotion program aimed at informing the community what it needs to do to adopt a more healthy lifestyle.

14.7% of all Tasmanians aged 15 and over sunbake with 56.8% of these being female. Of all Tasmanians in the 15 and over age group, by far the majority of sunbakers are in the younger, 15 to 34 age group, (61.3%).

An estimated 29,700 persons had a history of skin cancer, with those in older age groups (55 and over) comprising 65.3% of all persons with a history of skin cancer.

An estimated 39.0% of Tasmanians with no history of skin cancer believed they were likely, or very likely, to develop skin cancer in the future. This perception generally declines with age with it being highest among persons 15 to 24; 49.7%, and lowest among persons 65 and over at 12.9%.

During summer an estimated 304,800 (86.5% of persons aged 15 and over) used hats as a sun protection measure, while 299,000 (84.9%) used sunglasses, and 272,800 (77.5%) used sunscreen. An estimated 83,800 (23.8%) persons never deliberately avoided direct sunlight in summer.

Immunisation

Among Tasmanians aged 15 years and over who live in a household where children are present, 73.7% believe that immunisation is very effective in preventing childhood disease.

Over 90% of Tasmanians think that the provision of immunisation services by councils and by doctors is either important or very important. An estimated 69.9% of persons aged 15 and over thought that children who have not been immunised should be excluded from school during infectious disease outbreaks.

An estimated 34.8% of Tasmanians did not know how often immunisation side effects occurred.

This response was more common among males than females (42.9% compared to 26.9% for females), and from households where there were no children present (41.5% compared to 19.2% from households where children were present).

ABS national health surveys

Despite impressive health gains during the 20th century many people still die prematurely while many more suffer a reduced quality of life through health problems, many of which are the results of life-style or environmental factors. For example, the adverse effects of the use of tobacco on health and of excessive alcohol consumption are well known and widely publicised. Research also shows that a large proportion of premature deaths (especially those caused by heart attack and stroke) are diet related and preventable; as are many visits to doctors. Organisations like the Menzies Centre for Population Health Research in Tasmania, the Australian Institute of Health and Welfare, the National Health and Medical Research Council and the National Heart Foundation are promoting means of disease prevention and awareness of better health.

The ABS's National Health Surveys, run at five-year intervals, provide some valuable insights into the health status and health-risk factors of Australians.

Health status of Tasmanians

In 1995 in Tasmania, 80.8% of the population aged 15 years and over reported that their health was either good, very good, or excellent. Just 4.9% reported that their health was poor while 14.3% reported that their health was fair.

SELF-ASSESSED HEALTH STATUS, TASMANIA, 1995

Status	Males (a) %	Females (a) %	Persons (a)	
			Number '000	Proportion
Excellent	19.5	19.7	93.0	19.6
Very Good	35.6	37.1	172.1	36.3
Good	26.1	23.5	117.4	24.8
Fair	14.1	14.5	67.7	14.3
Poor	4.6	5.2	23.3	4.9
Total (b)	100.0	100.0	473.6	100.0

(a) Persons aged 15 years and over. (b) Any discrepancies between the sums of component items and totals are due to rounding.

Source: ABS National Health Survey 1995 unpublished data

Glaucoma inheritance study

Sue Asblin, Menzies Centre for Population Health Research

The key to early diagnosis of glaucoma may lie with the Glaucoma Inheritance Study in Tasmania

Glaucoma is a disease in which the eye's drainage system becomes obstructed. This causes pressure to rise, damaging the optic nerve at the back of the eye which leads to progressive loss of side vision and, if untreated, can lead to total blindness.

It is believed that up to 100,000 Australians may suffer from glaucoma, with up to half of them not knowing they have the disease. In Tasmania, there are thought to be 3000 to 4000 glaucoma sufferers.

Detecting glaucoma in its early stages without the need for complex and expensive investigations would be a major advance and may become possible through the Menzies Centre's Glaucoma Inheritance Study in Tasmania (GIST).

The GIST is examining the premise that the principal factor used to detect glaucoma should be family history. Previously, a person with a family history of glaucoma was thought to have only about a 10% chance of developing the disease.

However, studies of family trees in Tasmania suggest that this figure may be an under-estimation of the true risk. When several relations are affected, researchers believe the risk may be as high as 50%.

The GIST has been able to construct family trees of distantly related Tasmanians and to build up profiles of those families to see whether particular individuals are likely to develop glaucoma.

From these pedigrees, researchers involved in the study hope to find a common gene that is responsible for glaucoma. If a common link to a particular gene is found, a simple blood test may be developed to test for glaucoma. It is also possible that new pharmaceutical treatments may be created as a result of a greater understanding of the gene's function.

Illness conditions

Long-term illness conditions were reported by 77.1% of the population. These are defined as an illness, injury, or disability which has lasted at least six months, or which is expected to last for six months or more. Recent conditions (illness, injury, or disability, experienced in the two weeks prior to interview) were reported by 70.6% of the population, including 50.3% who reported both long-term and recent conditions. More females (78.2%) reported long-term conditions than males of the population (75.9%).

Of all people reporting recent conditions, the most common recent conditions reported were

headache, 11.3%; arthritis, 11.3%; hypertension 9.7%; asthma, 5.9%; common cold, 5%; and 'all other illness conditions', 40.5%.

Of all people reporting long-term conditions, the most common conditions reported were hypermetropia, or far-sightedness, 21.1%; myopia, or short-sightedness, 20.2%; arthritis, 17.9%; other sight disorders, 16.2%; hayfever, 14.1%; hypertension, 11.6%; asthma, 9.9%; sinusitis, 8.6%; and 'all other illness conditions', 36.8%.

ACTION TAKEN TWO WEEKS PRIOR TO INTERVIEW, TASMANIA, 1995

	Males '000	Females '000	Number '000	Persons
				Proportion % (b)
Hospital inpatient episode	2.5	2.5	4.9	1.0
Visit to hospital outpatients/emergency	4.3	5.6	9.9	2.1
Visit to day clinic	2.8	2.5	5.3	1.1
Doctor consultation	47.1	58.3	105.4	22.3
Dental consultation	9.8	14.2	24.0	5.1
Consultation with other health professional	17.9	27.0	45.1	9.5
Seen or talked to anyone else	11.4	6.7	18.2	3.8
Used medication vitamins/minerals, natural/herbal medicines	55.4	78.3	133.6	28.2
Used other medications	127.1	158.2	285.3	60.2
Days away from work/school	18.5	15.7	34.1	7.2
Other days of reduced activity	17.0	15.1	32.0	6.8
Total taking action (a)	163.9	191.6	355.6	75.1
Took no action	70.7	47.3	118.0	24.9
Total	234.7	238.9	473.6	100.0

(a) Persons may have taken more than one type of action during the two weeks prior to interview and therefore components do not add to totals. (b) Of total persons.

Source: ABS National Health Survey 1995 unpublished data

Type of action taken

In 1995 an estimated 75.1% of Tasmanians took one or more health-related actions in the two weeks prior to interview in the National Health Survey. The most common action taken was the use of medication other than vitamins/minerals, 60.2% of the population; this was followed by consumption of vitamins/minerals, 28.2% of the population. Next were doctor consultations, with 22.3% of Tasmanians having at least one consultation with a doctor in the prior two weeks, while a further 9.5% of Tasmanians had at least one consultation with other health professionals.

Health risk factors

Smoking

Health risks associated with smoking include cancers, respiratory diseases such as bronchitis and emphysema, and circulatory diseases including thrombosis and heart disease. For Tasmania, the 1995 National Health Survey showed that 25.5% of people aged 18 years

and over were smokers, 31.7% were ex-smokers and 42.8% had never smoked. A higher proportion of males were smokers (27.1%), than females (24.0%). There was also a higher proportion of male ex-smokers (37.3%) than females (26.4%).

Alcohol

Excess alcohol intake is associated with many chronic diseases and conditions, including coronary heart disease, stroke, hypertension, certain types of cancer, cirrhosis of the liver and brain damage. Alcohol is one of the most widely used drugs in Australia. The ABS's 1995 National Health Survey showed that 56% of Tasmanians aged 18 years and over said that they had consumed an alcoholic drink in the survey week.

The results of the 1995 National Health Survey showed that for people 18 years and over who consumed alcohol, 13.9% of males and 10.5% of females had either a medium or high health risk based upon their level of consumption. In the week prior to the survey, 67.2% of males aged 18 and over and 46% of females aged 18 and over had consumed alcohol.

SMOKER STATUS, TASMANIA, 1995 (a)

Status	Males		Females		Persons	
	No. '000	Proportion %	No. '000	Proportion %	No. '000	Proportion %
Smoker	45.8	27.1	42.1	24.0	87.9	25.5
Ex-smoker	63.1	37.3	46.3	26.4	109.4	31.7
Never smoked	60.3	35.6	87.3	49.7	147.5	42.8
Total (b)	169.2	100.0	175.6	100.0	344.9	100.0

(a) Persons aged 18 years and over. (b) Any discrepancies between sums of component items and totals are due to rounding.

Source: ABS National Health Survey 1995 unpublished data

BODY MASS INDEX, TASMANIA, 1995 (a)

Body mass index	Males		Females		Persons	
	No. '000	Proportion %	No. '000	Proportion %	No. '000	Proportion %
Underweight	6.0	3.5	19.6	11.2	25.7	7.5
Acceptable weight	86.6	51.2	84.4	48.1	171.0	49.6
Overweight	52.7	31.1	35.3	20.1	88.0	25.5
Obese	13.1	7.7	16.3	9.3	29.4	8.5
Not stated/not known	10.8	6.4	19.9	11.3	30.8	8.9
Total	169.2	100.0	175.6	100.0	344.9	100.0

(a) Persons aged 18 years and over. Derived from self-reported height and weight.

Source: ABS National Health Survey 1995 unpublished data

Excess weight for height

Being overweight or obese are risk factors for many diseases, including coronary heart disease. The 1995 National Health Survey showed that, for Tasmania, 38.9% of males and 29.4% of females aged 18 years and over were either overweight or obese.

Exercise

In 1995 an estimated 41.2% of Tasmanians aged 18 and over did not exercise in the two weeks prior to the survey, 24.0% exercised at a low level, 15.5% at a medium level and 19.3% at a high level. A much higher proportion of males (23.0%) exercised at a high level than females (15.8%); but many more females (28.0%) exercised at a low level than males (19.9%).

Community and health services

Contributed by the Department of Community and Health Services

The Department of Community and Health Services brings together a wide range of services for the people of Tasmania—providing health care services in hospitals and in the community,

offering a range of child and family support services, promoting better health, maintaining services for the elderly people and those with disabilities, and providing housing services.

Some of these services operate under programs of the Department of Community and Health Services, while others are offered by non-government organisations (NGOs) that receive funding and support from the Department.

A review of the Department in 1996 resulted in a statewide management structure in which services are delivered at a local level to the community. Previously, services were delivered on a regional basis, through the Department's South, North, and North West Regions.

Following the review of the Department, five Divisions were established. They are:

- Health Advancement Division, which combines services and functions dedicated to the prevention of illness and the promotion of well-being;

EXERCISE LEVEL, TASMANIA, 1995

Exercise level (a)	Males		Females		Persons	
	No. '000	Proportion %	No. '000	Proportion %	No. '000	Proportion %
Did not exercise	72.3	42.7	69.7	39.7	142.0	41.2
Low	33.6	19.9	49.2	28.0	82.7	24.0
Medium	24.4	14.4	29.0	16.5	53.5	15.5
High	38.9	23.0	27.7	15.8	66.7	19.3
Total	169.2	100.0	175.6	100.0	344.9	100.0

(a) Persons aged 18 years and over. Based on reported intensity, frequency and duration of exercise undertaken for recreation, sport or fitness in the two weeks prior to interview.

Source: ABS National Health Survey 1995 unpublished data

Youth Suicide in Tasmania

Judith Nguyen, Department of Community and Health Services

Tasmania has been reported as having one of the highest suicide rates in the country.

The figures for Tasmania are too small to reliably calculate rates, or to break down into sub-groups such as non-English speaking background, or Aboriginal and Torres Strait Islander. Two facts that consistently stand out however, are that between three and four times as many males as females complete suicide, and that males are at greatest risk between school leaving age and early middle age.

SUICIDE BY SELECTED AGE GROUPS, TASMANIA (a)

	15-19 years no.	20-24 years no.	All Others no.	Total Persons no.
1989	6	7	46	59
1990	6	9	55	70
1991	4	8	55	67
1992	8	17	72	97
1993	3	9	70	82
1994	4	13	56	73
1995	-	8	56	64
1996	7	4	60	71

(a) There is occasionally variance between the figures presented here and figures found in other ABS publications. This occurs because the ABS needs to collect figures before all Coroner inquiries have been completed. This table is a summary of Coroner's verdicts of suicide.

Source: Department of Community and Health Services

In Tasmania, the Mental Health Program of the Department of Community and Health Services monitors the incidence of suicide, and coordinates an interdepartmental response through the Suicide Register Steering Committee (SRSC). This committee will also liaise with regional groups concerned with reducing youth suicide and is chaired by the State Program Coordinator, Mental Health.

The Chair of this committee and a representative from the Rural Youth Organisation of Tasmania are also member of the Federal Health Minister's Youth Suicide Prevention Advisory Group (YSPAG).

This group is responsible for providing advice to the Federal Government's Youth Suicide Prevention Strategy. This strategy will run until June 1999. The strategy has allocated \$31 million to activities addressing youth suicide prevention. From this amount, Tasmania will receive:

- \$270,000 to enhance telephone counselling services to rural and regional youth over a three year period.
- \$100,000 to educate and train professionals in youth suicide prevention in Tasmania over two years.
- \$14,000 over two years to provide input into a National Stocktake of activities relating to information sharing, data collection, co-ordination and evaluation, which up to now, have not been addressed in a strategic way.

- Community and Rural Health Division, which delivers services for individuals within community settings. The Division also provides a focus for the planning and co-ordination of services delivered in rural areas. Clients of these services mainly require co-ordinated or case-managed care;
- Child, Youth and Family Support Division, which provides legislative or crisis intervention and accommodation services for people with special or complex needs. The primary focus of this Division concerns the proposed legislative framework for the Children, Young Persons and Their Families

Bill and the Youth Justice Bill, the integration of specific accommodation programs for people with special or complex needs and health services for homeless youth;

- Hospitals and Ambulance Services Division, which incorporates the former Acute Care Program and Ambulance Service. The Hospitals Service was established in November 1996 following reorganisation of the State's major hospitals and hospital service contracts. In March 1997, the Ambulance Service was integrated into the Division; and

Immunisation

Judith Nguyen, Department of Community and Health Services

Immunisation has been identified as a major health issue throughout Australia and is nationally and internationally recognised as an important public health measure.

Immunisation is the only way of providing effective protection against the vaccine preventable diseases of tetanus, diphtheria, pertussis (whooping cough), polio, measles, mumps, rubella, Haemophilus influenza type b (Hib), hepatitis B, and influenza.

Although the immunisation coverage rate has improved over recent years in Tasmania as a result of community education and awareness campaigns, outbreaks of vaccine preventable diseases continue to occur in Tasmania and the remainder of Australia.

For example, in Tasmania during 1996, reported cases of vaccine preventable diseases included 37 cases of rubella, one of Hib, 23 of measles, and 36 of whooping cough. One case of tetanus was also reported.

The introduction of immunisation programs is the most important factor responsible for a 91% reduction in mortality from measles, a 99% reduction for tetanus and whooping cough, and 100% reduction for diphtheria and polio in Australia. However, because some children are not adequately immunised, measles, mumps, rubella, and whooping cough still occur in our community.

One of the aims of the new Tasmanian Public Health Bill is to introduce the practice of

requiring parents to show documented evidence of their child's immunisation status on school or child care enrolment. Children who are not immunised will be excluded from schools or child care groups during an outbreak of an infectious disease. Exclusion reduces the possibility of these children becoming infected and greatly diminishes the risk they pose to other children.

Immunisation is the only method of potentially eliminating many life threatening diseases. There is no room for complacency and while vaccine preventable diseases can be eliminated, studies have shown that they can return if immunisation drops below acceptable levels.

Data collection on immunisation has improved with the establishment of the Australian Childhood Immunisation Register (ACIR) in 1996. Tasmanian General Practitioners Municipal Councils, community health centres and hospitals are participating in this data collection system.

Data from the ACIR should provide more reliable estimates of immunisation coverage in Tasmania. It will also form the basis of an optional recall/reminder scheme advising parents when their child's next vaccination is due.

In recognition of the importance of immunisation and the need to improve coverage, the Tasmanian Immunisation Strategy was developed and implemented in January 1994 in partnership with the National Immunisation Strategy and associated national immunisation promotional activities.

- Housing Services Division, which seeks to ensure that all low-income Tasmanians have access to secure, adequate and appropriate housing at an affordable price. Assistance is provided through a number of program areas. These include public rental assistance, home ownership assistance, community housing, crisis accommodation, and special purpose housing.

There are also two Corporate Divisions:

- Corporate Strategy Division, which must develop, implement and co-ordinate statewide policies, practices, standards and services on whole of Agency issues.
- Corporate Support Services Division, which incorporates Human Resources, Budgeting and Finance, Strategic Asset Management, Technology Services, and Statewide Library and Records services.

**NUMBER AND TOTAL COST OF EMPLOYMENT INJURIES, BY
SEX, 1995-96**

	Fatalities		Non-Fatal Injuries	
	Number no.	Total Cost \$m	Number no.	Total Cost \$m
Males	8	1.2	11 237	78.1
Females	-	-	4 271	34.9
Total Persons	8	1.2	15 508	113.0

Source: Workplace Safety Board of Tasmania

Employment injuries

In 1995-96, there were 15,516 compensable injuries reported to the Workplace Safety Board. Of this number, there were 8 fatalities, all of which involved male workers. The estimated total cost of those fatalities was \$1.17 million, an estimated average cost per fatality of \$145,835.

The number of non-fatal compensable injuries in 1995-96 was 15,508. Of this number, 27.5% (4,271) were women, and 72.5% (11,237) were

men. Of all non-fatal injuries, 49.8% (7,730) involved injuries where no time was lost, while 50.2% (7,778) involved the loss of one day or more.

The total cost of all compensable injuries reported during the year was estimated at \$114.2 million. The total cost of injuries was estimated as all actual payments made on reported injuries to 30 June 1996 plus estimated outstanding payments as at 30 June 1996.

FURTHER READING

ABS publications

Australian Social Trends (4102.0)

Causes of Death, Australia (3303.0)

Deaths, Tasmania, 1993 (3312.6) final issue

Deaths, Australia (3302.0)

Demography, Tasmania (3311.6)

Hospitals, Australia, 1991-92 (4391.0)

Health Issues, Tasmania (4396.6)

National Health Survey, 1995, Users' Guide, Australia (4363.0)

National Health Survey, Summary of Results, Australia (4392.0)

Perinatal Deaths, Australia (3304.0)

Other publications

Australian Institute of Health and Welfare, *Australia's Health*, 1994, AGPS, 1994

Australian Institute of Health and Welfare, *Health Expenditure Bulletin No. 12*, AGPS, 1996

National Heart Foundation, *Heart and Stroke Facts Report*, 1995, NHF, Canberra, 1995

World Health Organisation, *International Classification of Diseases, Ninth Revision*, WHO, 1975

Acknowledgments

Department of Community and Health Services

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Workplace Safety Board of Tasmania

CHAPTER 13

Community welfare

Photo: The Examiner



The Westbury Community Centre produces vegetables and flowers, which are sold by the Centre to supplement its income. Vegetables are also used for the Centre's emergency relief service.

In the 1990s, Tasmania faced a number of challenges in meeting the welfare needs of the community, as did other States. The changing demographic structure and changing workforce have increased social and economic pressures within the community. In Tasmania a further challenge to the provision of effective welfare services is posed by a comparatively small population dispersed throughout the State.

It is the Commonwealth Government (with income maintenance), the Tasmanian Government (with direct services) and non-government welfare organisations that, in the main, respond to these needs. Throughout the 1990s each of these providers has seen an increase in demand for their services. One consequence has been a movement towards increased cooperation between government and private sector providers in an effort to meet the changing needs of the community.

Income maintenance

Income maintenance payments are provided to individuals by the Federal Government, primarily through the Department of Social Security (DSS) and the Department of Veterans' Affairs (DVA).

Pensions for aged people were introduced in Australia in 1909, which was the beginning of the national provision of social security payments. Since then many other regular income payments have been added to provide income security to groups such as:

- the retired;
- people with disabilities;
- the sick;
- the unemployed; and
- families.

**DEPARTMENT OF SOCIAL SECURITY PENSIONS, BENEFITS AND
FAMILY PAYMENTS, TASMANIA, 1995-96**

Type of payment	Recipients at June 1996 no.	Expenditure(d) \$'000
Age Pension (a)	43 483	323 753
Disability Support Pension (a)	16 993	166 660
Sickness Allowance	816	7 294
Mobility Allowance	813	1 065
Child Disability Allowance	2 594	6 023
Job Search Allowance (c)	12 931	82 702
Newstart Allowance (c)	13 051	100 772
Youth Training Allowance (c)	1 564	5 392
Mature Age Allowance	2 208	16 317
Family Payment (b)	53 154	178 318
Sole Parent Pension	10 370	85 201
Double Orphan Pension	20	25
Maternity Allowance	2 407	1 800
Parenting Allowance	20 432	70 415
Special Benefit	243	1 983
Widow B Pension	1 061	9 860
Bereavement Allowance	2	58
Widow Allowance (c)	308	2 190
Partner Allowance (c)	2 648	17 394
Wife Pension	5 249	37 613
Carer Pension	985	7 125
Total	..	1 077 258

(a) Includes expenditure on Wife/Carer Pensions. (b) Includes Basic Family Payment and Additional Family Payment July-Dec and Family Payment Jan-June. (c) June monthly average. (d) Expenditure on additional benefits (e.g. Rent Assistance) is included in individual expenditure figures; therefore, they do not add to the total.

Source: Department of Social Security

The provision of income to these groups aims to ensure that people have adequate levels of income to support themselves and their dependants. Carers of these particular groups are also entitled to various benefits.

Income security for the retired

The Commonwealth Age Pension was introduced in 1909, replacing schemes set up by various States. Many of the core elements have not changed since its introduction.

The single rate of Age Pension has been maintained at 25% of the male Total Average Weekly Earnings since 1990. This seeks to ensure that people who have reached retirement age have an adequate level of income.

A major issue facing the program is the expected increase in the aged population into the first half of the next century. Also, changing patterns of employment, including a trend towards early retirement, present a challenge to the delivery of adequate retirement incomes. A strong emphasis is placed on providing financial information services to encourage self-provision and maximise the use of resources for self support.

Age pensions

Subject to income and assets tests, women aged 60.5 years and over (61 from 1 July 1997) and men aged 65 and over are eligible for the Age Pension.

AGE PENSIONS, TASMANIA

Year	Number at 30 June	Financial year expenditure \$m. (a)
1991	39 664	259.9
1992	41 288	277.1
1993	43 223	293.9
1994	45 168	322.8
1995	43 074	320.5
1996	43 483	323.8

(a) Includes Wife/Carer Pensions.

Source: Department of Social Security

At 30 June 1996 there were 43,483 people receiving an Age Pension, 54.9% of the estimated 79,229 Tasmanians aged 60 years and over. Expenditure totalled \$323.8 million for the 1995-96 financial year.

A Wife Pension may be paid to the wife of an Age or Disability Support pensioner who is not receiving any other income support payment in her own right. New grants of Wife Pension ceased after 30 June 1995. In Tasmania at 30 June 1996 there were 1,155 wives of age pensioners receiving Wife Pension.

Service pensions

In addition to the DSS Age Pension, the DVA provides Service Pensions to male veterans aged 60 years and over and female veterans aged 55 years and over. This pension is also subject to an income and assets test.

At 30 June 1996 there were 14,852 Service Pensions being paid (including Wife and Widow Pensions). In 1995–96, \$112.1 million was expended.

SERVICE PENSIONS, TASMANIA, 30 JUNE 1996

	Number of pensions (a)
War service	
World War I	15
World War II	10 723
Korea and Malaya	493
British Commonwealth	2 018
Allied Forces	635
Special Overseas Service	776
Miscellaneous	192
Total	14 852

(a) Comprises service pensions payable to veterans and partners and widows/widowers of veterans.

Source: Department of Veterans' Affairs

SERVICE PENSIONERS, TASMANIA

Year	Number at 30 June	Financial year expenditure \$m
1991	16 611	100.2
1992	16 407	102.9
1993	16 154	103.7
1994	15 802	104.2
1995	15 321	105.8
1996	14 852	112.1

Source: Department of Veterans' Affairs

Income security for the sick and people with disabilities

Over the last decade, increasing numbers of people have become reliant on disability-related income support payments. This trend will continue with the increasing incidence of disability associated with an aging population,

changes in labour market structure leading to a decrease in the availability of certain types of work, and the extension of eligibility criteria for Carer Pension.

The implementation of the Disability Reform Package in 1991 aimed to encourage people with disabilities to maximise their workforce potential through rehabilitation, training, and labour-market programs in order to minimise long-term dependency on income support.

Sickness Allowance

To claim Sickness Allowance a person must have suffered a loss of income as a result of illness or injury and have a job or study to return to. The payment of Sickness Allowance is only for 12 months, extendable to 24 months under special circumstances. In Tasmania 816 people were receiving Sickness Allowance at 30 June 1996 at a total cost of \$7.3 million dollars for the financial year.

SICKNESS ALLOWANCES, TASMANIA

Year	Number at 30 June	Financial year expenditure \$m
1991(a)	(b)1 329	11.3
1992	(b)1 125	10.0
1993	(b) 991	8.4
1994	(b)1 059	9.0
1995	974	8.9
1996	816	7.3

(a) Sickness Allowance replaced Sickness Benefit from 1991. (b) Annual average number on benefits during the year.

Source: Department of Social Security

Disability Support Pension

To be eligible for this support a person must be permanently blind, or have a physical, intellectual or psychiatric impairment of 20% or

DISABILITY SUPPORT PENSIONS, TASMANIA

Year	Number at June 30 (a)	Financial year expenditure \$m (a)
1991(b)	13 421	90.8
1992	15 421	107.8
1993	17 705	124.1
1994	19 088	143.6
1995	15 401	150.6
1996	16 993	166.7

(a) Includes Wife/Carer Pensions. (b) In 1991 the Disability Support Pension replaced the Invalid Pension, with minor changes to the eligibility conditions.

Source: Department of Social Security

more and a continuing inability to work for at least 30 hours a week at full award wages. At 30 June 1996 there were 16,993 people receiving this pension at a cost of \$166.7 million for the 1995-96 financial year.

A Wife Pension may be paid to the wife of a disability support pensioner, if she does not qualify for a pension in her own right. New grants of Wife Pension ceased after 30 June 1995. At 30 June 1996 there were 4,094 wives of disability support pensioners receiving Wife Pension.

Disability Pension

In addition to the Disability Support Pension provided by the DSS, the DVA provides a similar pension to veterans to compensate for service-related injury or disease. At 30 June 1996, 14,230 disability pensions were being paid, at a cost of \$48.2 million in 1995-96.

DISABILITY PENSIONS, TASMANIA

Year	Number at 30 June (a)	Financial year expenditure \$m
1991	15 495	44.0
1992	15 455	44.5
1993	15 177	45.8
1994	14 876	46.4
1995	14 584	(b) 47.3
1996	14 230	(b) 48.2

(a) Includes payments to veterans and their dependants.

(b) Does not include amounts paid to dependants of deceased veterans.

Source: Department of Veterans' Affairs

Carer Pension

A Carer Pension is payable to a person providing full-time personal care or supervision to a severely disabled person. The care must be provided in the private home of the person receiving care. From July 1997 Carer Pension became known as Carer Payment in recognition of the work that carers do.

At 30 June 1996 there were 326 recipients caring for age pensioners, 593 recipients caring for disability support pensioners and 66 recipients caring for other pensioners or non-DSS customers. For 1995-96 expenditure totalled \$7.1 million.

Mobility Allowance

Mobility Allowance is paid to provide assistance to people with disabilities who are in

employment, vocational training or voluntary work and are unable to use public transport without substantial assistance. This particular allowance aims to encourage self help and independence for disabled people. In Tasmania for 1995-96 a total of \$1.1 million was spent on Mobility Allowances. At the end of the financial year there were 813 recipients.

Child Disability Allowance

To provide further financial help to a person caring for a child with a disability, the DSS provides a Child Disability Allowance. This allowance aims to encourage family-based care rather than institutional care of disabled children. Entitlement to CDA is determined by the level of extra care required. In Tasmania at 30 June 1996, there were 2,594 persons claiming this benefit on behalf of 2,870 eligible children. The total expenditure for 1995-96 was \$6.0 million.

Income security for the unemployed

The aim of this DSS program is to ensure unemployed people receive adequate income support. Where possible, payments are linked to provision of opportunities and incentives to enter or re-enter the workforce.

Income support for the unemployed was introduced, as unemployment benefit, in 1945. At the time it was primarily a short-term payment for people moving from one full-time job to another. In recent decades the labour market has undergone significant structural change. High levels of unemployment and particularly long-term unemployment have persisted through the late 1980s and into the 1990s. Income security for the unemployed is one of the largest expenditure programs of the DSS.

BENEFITS FOR UNEMPLOYED, TASMANIA

Year	Number at 30 June	Financial year expenditure \$m
1991 (a)(b)	20 521	172.7
1992 (a)	26 399	228.4
1993 (a)	29 936	248.3
1994 (a)	30 058	255.6
1995	27 581	244.5
1996	25 982	183.5

(a) Figure is the annual average number on benefits during the year. (b) From 1991 figure consists of Job Search Allowance and Newstart Allowance.

Source: Department of Social Security

Newstart Allowance (incorporating Job Search Allowance)

In July 1991 the Unemployment Benefit Payment was divided into two separate payment programs: Job Search Allowance, and Newstart Allowance. Job Search Allowance was paid to clients aged 15 to 17 years and clients aged 18 to Age Pension age for the first 12 months of unemployment. Newstart Allowance was paid to those unemployed for longer than 12 months.

From September 1996 Job Search Allowance has been incorporated into Newstart Allowance. The primary aim of Newstart Allowance is to ensure an adequate level of income while encouraging participation in activities designed to enhance employment prospects. To receive Newstart a person must be aged from 18 to Age Pension age, unemployed, and actively seeking work or engaged in an approved activity such as vocational training.

At 30 June 1996 there were 12,931 recipients of Job Search Allowance and 13,051 recipients of Newstart Allowance. This amounted to a total expenditure of \$183.5 million in the 1995–96 financial year.

Youth Training Allowance

Since January 1995 newly unemployed persons aged under 18 have been paid the Youth Training Allowance. To be eligible a person must be aged 16 to 17 years (15 in certain circumstances) and be unemployed. In Tasmania at 30 June 1996 there were 1,564 people receiving this allowance. The total expenditure for 1995–96 was \$5.4 million.

Mature Age Allowance

Mature Age Allowance was introduced in March 1994 as an interim measure to assist older long-term unemployed people facing difficulties obtaining work. From 1 July 1996 MAA became a permanent payment. To be eligible a person must be over 60 years of age, but less than Age Pension age, and unemployed with no recent workforce experience. Recipients have access to labour market assistance if they choose to register with the CES.

At 30 June 1996 1,749 Tasmanians were receiving MAA, at a cost of \$16.3 million, for the 1995–96 financial year.

Partner Allowance

Partner Allowance is intended to provide adequate income for partners of income-support recipients who face barriers to finding

employment because of their previous limited participation in the workforce.

Partner Allowance is paid to eligible partners of current Newstart, Sickness and Mature Age Allowance, Special Benefit, DVA Service Pension and DSS pension customers. The recipient must be born on or before 1 July 1955 and have no recent workforce experience. From 1 July 1995 payment may continue after the primary beneficiary loses entitlement.

In Tasmania at 30 June 1996, 2,648 people were receiving this allowance at a cost of \$17.4 million during 1995–96.

Payments for families with children

The objectives of this program are to ensure that families with children (including sole parent families) have adequate levels of income, receive fair levels of assistance toward the cost of raising their children and are able to overcome the barriers to workforce participation that arise in part from the presence of children.

BASIC FAMILY PAYMENT, TASMANIA

Year (a)	Number of dependants	Number of families	Financial year expenditure \$m
1991	109 826	56 461	56.1
1992	110 098	56 765	68.6
1993	109 430	56 566	60.8
1994	104 588	53 946	60.6
1995	102 816	53 289	59.3
1996	102 439	53 154	(b) 178.3

(a) As at June. (b) Includes Basic Family Payment and Additional Family Payment (Jul–Dec) and Family Payment (Jan–Jun).

Source: Department of Social Security

Family Payment

Previously divided into Basic Family Payment and Additional Family Payment, from January 1996 payments were amalgamated to form Family Payment. This is payable, subject to income and assets tests, to a person with dependent children under 16 years or with a secondary student aged 16 or 17 who is not receiving a prescribed education scheme payment. Most families are entitled to Family Payment at the minimum rate. Family Payment can be paid to a maximum level dependent upon the number and age of children in a family, level of income and assets. Hardship provisions exist to assist those who do not meet the assets test but are in genuine hardship.

At 30 June 1996 there were 53,154 Tasmanian families receiving Family Payment on behalf of 102,439 children. Expenditure for 1995-96 was \$178.3 million.

Sole Parent Pension

Sole Parent Pension may be paid to a sole parent who is supporting at least one child under 16, or a disabled student aged 16 to 21 attracting Child Disability Allowance. To be eligible a person must not be a member of a couple or must be living apart from their partner, they may not be in receipt of another DSS or DVA pension and must take reasonable steps to obtain child support payments from the other parent.

At 30 June 1996 there were 10,370 parents who received a Sole Parent Pension. In Tasmania in 1995-96, \$85.2 million was expended.

Double Orphan Pension

If both parents of a child are deceased, a guardian or an approved care organisation may be paid a Double Orphan Pension for a child under 16 years of age or a dependent full-time student aged 16 to 17 years. The pension is also payable where only one parent is deceased and the whereabouts of the other is unknown, or they have been imprisoned for at least 10 years, or they require care in a mental hospital or nursing home etc. for an indefinite time.

In the 1995-96 financial year, \$26,000 was spent in relation to 25 Tasmanian children.

Maternity Allowance

Introduced from 1 February 1996 Maternity Allowance may be paid for each new child born to families eligible for Family Payment. In Tasmania from 1 February to 30 June 1996, 2,407 eligible births resulted in the expenditure of \$1.8 million.

Parenting Allowance

Parenting Allowance was introduced from 1 July 1995 and incorporates the former Home Child Care Allowance. This allowance aims to provide an independent source of income to the partner who is not in paid work. It provides increased choice for parents in balancing work and family responsibilities.

In June 1996, 20,432 people received this allowance, at a total cost of \$70.4 million for the 1995-96 financial year.

Family Tax Payment

The Family Tax Payment commenced on 1 January 1997. It is part of the Family Tax Initiative aimed at providing extra assistance to families with taxable incomes less than \$70,000. Many families have access to this assistance through the taxation system. Low income families, if eligible, can receive a fortnightly payment through DSS.

Jobs, education and training

Where appropriate, income support is complemented by:

- the Jobs, Education and Training (JET) program which encourages and assists eligible DSS clients to obtain employment through personal interviews, access to education and training opportunities and help with finding child care;
- the Child Support Scheme which aims to improve financial support for children of separated parents by ensuring that both parents contribute to the support of their children according to their capacity to pay; and
- Childcare Assistance aimed at assisting families with the cost of child care.

Provision for special circumstances

This group of income payments is provided for people in hardship or in situations of special need where they are ineligible for other payments.

Special Benefit

A Special Benefit is a discretionary payment which may be paid to a person who is not eligible for a pension or allowance, if they are in hardship and unable to earn a sufficient livelihood for reasons beyond their control. People considered for Special Benefit payments include, for example, expectant mothers and refugees who do not qualify for other benefits because they do not meet the necessary residential qualifications. Payment can be made immediately in an emergency.

In June 1996 there were 243 people receiving Special Benefit in Tasmania at a cost of \$2 million for the 1995-96 financial year.

Widow B Pension

This pension provides payments to particular categories of older widows. The Widow B Pension is gradually being phased out and is confined to women who have reached the

prescribed age of eligibility (50 years of age, or 45 years of age if previously receiving a Sole Parent Pension) before 1 July 1987. From 20 March 1997, new grants of Widow B Pension will cease. Expenditure for the 1995–96 financial year totalled \$9.9 million with 1,061 women receiving this benefit at June 1996.

Widow Allowance

Introduced from 1 January 1995 Widow Allowance provides support for older women who are widowed, divorced or separated after turning 50 and who have no recent workforce experience. Widow Allowance is paid at the same rate as Newstart Allowance but is not activity tested. In Tasmania the total cost of this benefit for the 1995–96 financial year was \$2.2 million with 308 recipients at June 1996.

Bereavement Allowance

Known as Widowed Person Allowance prior to January 1995, Bereavement Allowance is a short-term payment for people without children in the period immediately following the death of their partner. During 1995–96 expenditure on this allowance totalled \$57,800.

Supplementary payments and entitlements

Recipients of Social Security benefits may also be eligible for a range of supplementary payments and entitlements. These include:

- Pharmaceutical Allowance;
- Health and Concession cards;
- Rent Assistance;
- Telephone Allowance;
- Remote Area Allowance;
- Disaster Relief Payment;
- Drought Relief Payment; and
- Farm Household Support.

State Government direct services

In Tasmania, the Department of Community and Health Services is the principal agency for the delivery of State Government-based welfare services. It is the largest State Government agency in Tasmania, with a budget of \$710 million in 1996–97.

An Internal Review of the Department, completed in December 1996, recommended a number of structural changes which were

implemented from 1 July 1997. Program-based groups were replaced by five areas of business or Output Groups, designed to deliver timely and high-quality services while achieving the best possible value for money. At the same time, the Department is moving away from the direct provision of services to delivery of services by the most effective provider or mix of providers.

Aged and disability support services

These services aim to meet the needs of people who are aged, and/or have a disability, to enable them to live safely and independently. The services provided include accommodation such as nursing homes, hostels and group homes, and in-home support such as home nursing and home help. The 1995–96 expenditure for this program was \$122.1 million. In 1995–96 funding of \$42 million was provided to community organisations through the program. Accommodation support includes:

- Congregate care, such as the Willow Court Centre, which provides accommodation and other services to people with intellectual disability in an institutional environment. Accommodation is provided in congregate care settings and share homes on campus. The Community Integration Project allows residents of Willow Court to return to their chosen community within Tasmania. In mid-1996, 221 people with intellectual disabilities were supported in the community, 163 of whom transferred from Willow Court.
- Staffed accommodation, such as St John's Park Nursing Home, which provides nursing care and social and emotional support for the dependent and frail aged and younger people with a disability.
- Respite care, which includes centre-based care, host family care, in-home respite and supported holidays. In 1995–96 the provision of respite services was identified as an area of critical need and was given the highest priority for additional funding. Growth funding through the Home and Community Care (HACC) Program, a joint Commonwealth–State Program, was expended on respite services.

In 1995–96 almost \$2.3 million, or 11.2% of the total HACC budget, was expended on respite services. This was an 18.4% increase in funding from the previous year.

Family Based Care (FBC) also offers State-wide respite care for frail elderly people and younger

people with disabilities who are at risk of early or inappropriate admission to long-term residential care. The service is offered on a regular or occasional basis and allows family carers to have a break from their usual routine.

Community access

Community access offers a range of activities and services that provide the aged or disabled person with socialisation or recreation opportunities, community activities and support services.

Home support

This assists clients with personal care and health services, home maintenance and nursing, enabling them to remain in their own homes. A flexible pool of nursing staff enables Community Nursing to respond to emergency nursing, palliative care and post-acute needs, particularly in rural areas.

Aged care assessment

Aged Care Assessment Teams (ACAT) were established to assess the physical, medical, psychological and social needs of frail aged people in order to assist them to choose the most appropriate combination of services. During 1995-96, 4,754 clients were assessed by ACAT.

Advocacy and community education

DCHS develop, maintain and enhance a range of advocacy activities and information services to assist people who are aged or who have disabilities. In 1995-96 funding of \$356,000 was allocated to community-based organisations to provide information and community education activities relating to a range of disabilities. In addition \$192,000 was provided to community-based organisations to provide advocacy, support and referral services to people with disabilities and their carers.

Seniors Bureau

The Seniors Bureau was established in 1993, in line with Government policy to improve the position of older people. The purpose of the Bureau is to facilitate closer links, coordination and understanding between agencies who represent the needs and concerns of older Tasmanians.

The unit also administers the Tasmanian Seniors Card Scheme which allows a more active retirement through Metro transport concessions, commercial offers, and leisure opportunities linked to the card. Since its launch

in February 1994 nearly 44,000 people, 63% of the target population, have applied for a Seniors Card.

Child, family and community support services

In 1995-96 the Child, Family and Community Support Program allocated \$56.9 million to provide the following related activities:

- community development and support services;
- crisis and post crisis support for victims of domestic violence;
- health and development services for 0 to 18 year olds;
- rehabilitation services for persons with substance abuse problems;
- dental health services for children;
- supervision and support for young offenders and their families;
- services for children at risk of abuse, and their families; and
- provision of out-of-home care and adoption services.

Community development and support services

Funds are provided to non-government organisations to assist them in the provision of child care, and supported and crisis accommodation services through Neighbourhood Houses and Community Centres. A range of primary health care services is provided including education and training in specialist areas such as pharmacy, nutrition and women's health.

In 1995-96, \$1.59 million was distributed to 30

CHILD-CARE PLACES, TASMANIA, 31 DECEMBER 1996

Service type	Places no.
Community	1 450
Private	471
Non Profit and Employer Sponsored	170
Family Day Care	1 682
Occasional Care Centres	133
Occasional Care Neighbourhood Model	117
Multifunctional (a)	..
Multifunctional Aboriginal Children's Services	27
Outside School Hours Care	1 593
Total	5 643

(a) Not available in Tasmania.

Source: Commonwealth Department of Health and Family Services

Family Support Services, \$305,000 to Personal and Family Counselling Services, \$229,000 to provide financial counselling across the State and \$1.02 million to assist with Back Up Child Care and Play Centres.

The Supported Accommodation and Assistance Program is jointly funded by the State and the Commonwealth. During 1995–96 a total of \$8.5 million was expended on 42 different services. The number of crisis and medium-term beds available has decreased from over 700 in 1993–94 to 650 in 1995–96 reflecting a national trend away from crisis accommodation towards case management and support services.

Child care services were expanded in response to the National Child Care Strategy with the opening of 4 Long Day Care Centres, 2 in the North and 2 in the North West. Total cost of this program was \$1.04 million.

Family Day Care

Operating in Tasmania for over 20 years, Family Day Care offers a flexible model of care available 7 days a week, 24 hours a day.

The Commonwealth directly funds a sponsoring or management body, which employs coordination unit staff to run a scheme. A scheme comprises staff, a network of

self-employed carers who provide care in their own homes and families who use the service. In Tasmania 9 of the 12 schemes are sponsored by a local government body. These schemes offered a total of 1,782 EFT (Equivalent Full Time) places at April 1997. Between them the schemes offer a self-employment opportunity for approximately 560 registered carers who provide child care for almost 4,000 children. This represents almost half of the children placed in long day care in Tasmania. Parents using Family Day Care are entitled to Commonwealth-funded Child Care Assistance and Child Care Rebate.

Domestic violence

Crisis services are provided to victims and survivors of domestic violence including counselling, information, referral, advocacy and financial assistance. The service provides an outreach and after-hours service and works closely with Tasmania Police to ensure the safety of women escaping violence. Access to services has been improved to women living in rural areas through the introduction of a 1800 telephone line.

Health and development of 0 to 18 year olds

Universal services are provided to all families with children under 18 and to prospective parents. Information and education programs

Child-care choices

In March 1996, the estimated population of Tasmania aged 0 to 12 years was 83,500. Of these 47.9% (40,000) used some form of formal or informal child care compared to 45% (38,000) in June 1993.

Formal child care is regulated care which takes place away from the child's home. This includes attendance at preschool, a child-care centre, family day care and occasional care. In March 1996, 8.1% (12,700) of children used formal care. Informal care is non-regulated and can take place in the child's home or elsewhere. It includes care by family members, friends, neighbours and paid babysitters. Informal care was used by 39.8% (33,200) of children.

Reasons for using child care are varied and influence the type of care used. Children who attended before and after school care programs, family day care and long day care, used these types of care primarily because of the work-related reasons of their parents. While employers and workplaces increasingly acknowledge the need for workers to balance work and family responsibilities, lack of child care presents a barrier for many people seeking employment. Traditionally, in our society the primary responsibility for child care has fallen to women. This is reflected in their use of flexible work arrangements, such as permanent part-time work and job sharing, and their need for flexible child care. In September 1996, 10,800 Tasmanian women who wanted to work were not actively seeking a position for child-care reasons.

aim to promote the health and well-being of parents, children and adolescents. Comprehensive health screening services are provided in accordance with the National Health and Medical Research Council recommendations. A client complaint and satisfaction process was implemented during 1995–96 following a review of client services.

Rehabilitation services

Intensive intervention and detoxification services are provided in northern Tasmania and southern Tasmania, while a community-based non-medical facility provides services in the North West. Outpatient counselling services are provided through community health centres, hospitals and outreach programs to rural areas.

In 1995–96 the Tasmanian Methadone Policy was adopted and the Methadone Maintenance Program was transferred to the private sector. A total of \$1.5 million was spent on community programs as part of the National Drug Strategy.

Dental Health Program

This sub-program provides accessible, affordable and universal preventive and restorative dental services to school children and Health Care Card holders and their adult dependants. Dental services are provided through both the public and the private dental sectors. As part of the Commonwealth Dental Health Program, \$3.4 million was spent during 1995–96 on general and emergency dental treatment.

Under the School Dental Program services were provided to over 10,000 school-age children throughout 1995–96. Adult Health Care Card holders accessed services on over 25,000 occasions.

Youth justice

The Youth Justice Program provides advice to the Children's Court on juvenile offenders and supervises young people who are found guilty of offences. It also provides support to the families of young people who offend, and provides custodial care and rehabilitation services at the Ashley Youth Detention Centre. The number of admissions of young people to Ashley increased by 75% from 102 in 1994–95 to 179 in 1995–96.

Services for children and families at risk

This program is designed to ensure that children who have been abused, or are at risk of being abused, have increased safety and choice. It provides investigation, assessment and referral, placement and case-planning services for

children at risk or without adequate support. Community education programs are conducted to assist the community, families and individuals to reduce the incidence of child abuse and neglect.

During 1995–96 a single point of entry was established through the Intake and Assessment Units to undertake all investigative and assessment functions under the *Child Welfare Act 1960* and the *Child Protection Act 1976*.

Out-of-home care and adoption services

Out-of-home care services include short and long-term foster care with families, family group home care, cottage care and specialised foster care for adolescents experiencing problems. Family-based foster care is the most utilised and cost effective type of care. The Department recruits and assesses families and individuals who are able to provide care in their own homes. Case management services are provided for children who are in care. Support and contact services are also provided for their families where appropriate.

Adoption services in Tasmania are provided by the Department of Community and Health Services and the approved Catholic Private Adoption Agency operated by Centacare.

The DCHS assumes legal guardianship in cases where the ongoing safety and well-being of a child cannot be assured within a child's immediate or extended family. The number of children declared to be Wards of State increased from 39 in 1993–94 to 65 in 1995–96.

Housing services

The Housing Services Program (HSP) aims to provide access to adequate, affordable and appropriate housing particularly for people on low incomes.

The Commonwealth State Housing Agreement (CSHA) is the principal source of funding for the HSP. Expenditure in 1995–96 was \$99.5 million, excluding expenditure on the Home Ownership Assistance Program (HOAP).

A range of assistance is available including:

- public rental housing;
- help to people who rent in the private market;
- help with home ownership; and
- help through community housing.

Youth Homelessness

Tasmania has seen a steady growth in the demand for welfare services throughout the 1990s. As a result, 6 government and non-government agencies have had difficulty meeting demand for housing-related services.

Department of Social Security benefits are available to eligible young people at an increased rate where homelessness can be proved. To qualify for the higher rate of payment the young person must be unable to live at home because of extreme family breakdown, or it must be unreasonable to expect the young person to live at home because of domestic violence, incestuous harassment or other extreme circumstances. All such claims are subject to verification. At April 1997 there were 829 young Tasmanians receiving Social Security payments at the homeless rate, while 106 males and 227 females were receiving AUSTUDY at the homeless rate.

Provision of rental housing

Public housing is currently the major form of housing assistance provided by the Department. As at April 1997 there were 14,080 properties managed by Housing Services with a value of approximately \$790 million.

Each year there are around 30,000 Tasmanians living in public housing. At the end of 1995–96 there were just over 2,600 households waiting for public housing.

Assistance is provided to people who:

- are low income earners;
- are residents of Australia living in Tasmania;
- are 16 years of age or older; and
- have financial assets of less than \$20,620.

Private rental assistance

Advice, referral, advocacy and financial assistance is available to people on low incomes to assist them to establish or maintain tenancies in the private market.

As part of the Private Rental Support Scheme financial assistance is provided through local Housing Service Centres in the State to people with dependants. Assistance to those without dependants is provided by community organisations funded by the Department. In 1995–96, 4,812 people were assisted through this scheme.

Rent subsidy assistance is also available to those on low incomes who are renting in the private market, and who are paying more than 45% of

their income in rent. Just under 2,000 people used this form of assistance in 1995–96.

Assistance with home ownership

Assistance is available to low and moderate income households to enable them to access home finance. The Home Ownership Assistance Program (HOAP) is targeted at public housing clients and private borrowers wishing to purchase public rental dwellings that have been identified as surplus. During 1995–96, 458 loans were issued through HOAP with a total value of \$25.1 million.

Community sector housing

Funding is provided to local government, community organisations and non-profit housing cooperatives to encourage the involvement of groups other than government in the development and management of housing options. The Community Housing Resource Organisation (CHRO) resources existing and potential community housing providers in all aspects of housing management.

Rental housing for Aboriginal people is also available through the Aboriginal Housing Program.

Client complaints and review

Any client dissatisfied with a decision made by Housing Services or dissatisfied with the quality of the service received may initiate an internal review by contacting the Client Contact Line. A Housing Review Committee gives clients of the Housing Division access to a semi-independent body which can review any decision made concerning their housing circumstances.

Non-government agencies

In Tasmania in the 1990s there has been an increase in demand for welfare services. High unemployment has meant individuals and families have sought assistance from both government agencies and non-government agencies. An increase in the number of sole-parent families has seen growth in demand for child and family support services. The high proportion of retirees and older people in the community has increased the demand for age and disability services. In difficult economic times, the factors that reduce funding for welfare programs in turn create increased demand for these programs within the community.

It has long been recognised that many volunteer agencies provide effective and efficient welfare services. This is partly because the non-government (or community) sector is often more able to respond quickly to emerging community needs. Also, the specialised nature of some welfare agencies means they have detailed knowledge of the needs of their target group.

Non-government welfare agencies also provide significant voluntary support to government-funded services. However, many community service agencies are finding it increasingly difficult to meet the growing demand for services. Reduced resources and increased hardship in the community has placed increased pressure on existing social services, while limited government funding and heightened competition for support from donors and volunteers make it difficult for organisations to maintain or expand current services. The Federal Government's decision to cut funding to labour programs has reduced the extent of community-based employment programs. As a result more people are seeking non-government welfare assistance.

Tasmanian Council of Social Service Inc. (TasCOSS)

TasCOSS is an independent, non-government organisation which represents voluntary social welfare agencies. It is part of the Australian Council of Social Services (ACOSS).

The objectives of TasCOSS are to:

- act as the coordinating body within Tasmania for non-government welfare organisations;
- promote and uphold the rights of disadvantaged members of the community;

- inform the public of the causes and effects of poverty, injustice, disability, sickness and related matters;
- provide representation and advice to non-government welfare organisations;
- liaise and cooperate with Federal, State and local governments, government departments, statutory authorities and other organisations; and
- cooperate with ACOSS and other national and international organisations in promoting the interests and objectives of non-government welfare organisations.

As part of the national network, TasCOSS provides input into Federal Government issues such as Federal-State Government funding agreements.

The Jobs, Education and Training (JET) Program is an example of a project operating under the auspices of TasCOSS. Administered jointly by several Commonwealth departments, the program aims to assist sole parents to enter or re-enter the workforce.

Since 1989, TasCOSS has been funded by the Department of Health and Family Services to employ JET Child Care Resource Workers — (JETCCRW) who assist sole parents with access to child-care services. JETCCRW assisted with 995 child-care placements during the 1995-96 financial year, in response to DSS JET client referrals.

Religious agencies

Many churches provide a range of social welfare services for the wider community, including accommodation; and financial, emotional and spiritual assistance.

In Tasmania, major welfare assistance is provided by the Anglican Church (Anglicare) and Catholic Church (Cenacare), the Salvation Army, the Society of St Vincent de Paul, and the Hobart City Mission.

For each of these agencies one of the greatest challenges of 1996 was the role played in the provision of counselling and de-briefing sessions conducted for those involved in the aftermath of the Port Arthur tragedy.

Anglicare

Anglicare sponsors a range of welfare programs, including accommodation, counselling and training services, for needy Tasmanians.

Youth Services Glenorchy—A Success Story

In a climate of high unemployment and increasing numbers of homeless among Tasmania's youth, demand for youth-specific welfare services is increasing. More than 160 youth service providers have been identified in Tasmania and approximately 150 additional general services which are accessed by young people. These services are offered by Commonwealth and State Government agencies, local governments and the community sector.

The range of services offered by these providers includes:

- coordination;
- counselling and support;
- employment, vocational education and training;
- health;
- housing and accommodation;
- information, advice, advocacy and referral;
- legal assistance and advice;
- material assistance; and
- recreation, arts and culture.

The Glenorchy City Council has taken an active role in the provision of youth services encouraging youth participation in decision making. The Glenorchy Youth Task Force was established in 1994 as a special committee of Council.

Membership of the task force comprises 12 to 14 young people drawn from the community. The inclusion of the Mayor, also a member, is a major reason for the group's success allowing those involved to see their issues are taken seriously.

The primary role of the Glenorchy Youth Task Force is to identify and represent the interests and needs of all young people and their cultural groups in the City of Glenorchy. Since its

establishment, the Task Force has been involved in many projects including a Youth and Community Summit, Glenorchy Crime Prevention Task Force, a Youth Street Work Project, and the Glenorchy Youth Resource Centre.

The involvement of the Task Force was the key factor in the development of the Resource Centre, established as a direct result of a survey entitled 'A Place To Go'. The Centre opened on 9 February 1996, and 400 people visited in the first 4 weeks of operation.

The Centre provides a safe gathering point for entertainment and recreational activities. It also provides practical support such as shower, cooking and washing facilities, and a base for information and outreach services. The Centre averages 60 to 70 visits per month with more than one-third of these visits being from young women.

The Task Force continues to play a valuable role in the consultation process between the Council and the youth community. In 3 years of operation 4 Task Force members have each contributed over 1,000 voluntary hours.

The Council's youth consultation process and the establishment of the Youth Resource Centre have been identified as a model of best practice by the State Youth Link Committee and the Office of Youth Affairs.

The Australian Local Government Association has recognised Glenorchy City and 4 other councils around Australia as having appropriate youth consultation processes in place. As a result Glenorchy City Council was invited to participate in a meeting in May 1997 to discuss the future development of Youth Consultation Programs in Australia.

Accommodation

Anglicare provides a Statewide accommodation service, with 20 workers employed to address the issues of homelessness in Tasmania. In southern Tasmania, Youthcare offers crisis, medium and long-term accommodation, as well as outreach support to young people 15 to 25 years of age. The Shelter provides food, shelter, counselling and short-term crisis accommodation. In 1996, 300 people sought crisis accommodation.

The Northern Outreach Service and the North West Housing Outreach Service provide medium-term to long-term accommodation for families, single adults and young people. They also offer financial assistance, financial advice, counselling and support, referral and advocacy services. Together with other youth accommodation services, Anglicare has formed the Northern Youth Accommodation Coalition (NYAC) to provide medium-term housing for young people.

Counselling

Anglicare is also involved in marriage and relationship education and counselling. Counsellors (7 full-time and 11 part-time) are employed in Burnie, Devonport, Launceston and Hobart. In 1996 there were 393 marriage counselling cases. In addition, pre-marriage education courses are conducted in each region.

Other counselling programs run by Anglicare include the Hassles Mediation Centre and Options. Both of these programs deal with parent-adolescent conflict, and aim to assist young people and parents to resolve conflict and foster community understanding of conflict and conflict resolution.

Anglicare's financial counselling service encourages people to take control of their finances and to help them out of debt. The introduction of a 1800 freecall telephone number gives direct access to counsellors to those living outside the major urban centres. Increased funding from the Commonwealth Attorney-General's Department allowed an expansion of financial counselling in rural areas during 1996.

Training

The Information Technology Centre of Tasmania (ITeC) was established in 1988 to provide computer-based training for unemployed Tasmanians. ITeC provides a broad range of training and career services. In addition ITeC

offers a 'fee for service' program offering training to the broader community.

Centacare

Centacare is the Catholic Church's primary social welfare agency. It provides help for families and their children, married couples and the long-term unemployed.

Centacare offers education sessions, self help and support groups, accommodation, counselling and adoption services.

Counselling

Centacare is one of the main marriage counselling agencies in Tasmania approved by the Commonwealth Attorney-General's Department. At present, counsellors operate in Hobart, Launceston, Burnie, and on the West Coast.

Violence within relationships continued to be the subject of many counselling sessions that were undertaken during the year. In response, Centacare has a group program for men, the Changing Abusive Behaviours Group, aiming to help break the cycle of violence.

Centacare also provides a range of services to meet the needs of young parents (including pregnant women) and their children. The Pregnancy and Motherhood Program (PRAM) helps young parents establish social networks within their peer group. The program disseminates information about parental care, labour and delivery, and parenting skills.

Another Centacare group which aims to help single parents is the Lifeskills and Support and Relationships (LASAR) support group. The program covers areas such as communication skills, personal growth, discipline of children, and coping with difficult behaviour in children.

The Endeavour Program is a residential parenting program which operates from a campsite at Coningham near Hobart. The program is residential and offers personal development and parenting skills plus a comprehensive program for children who accompany their parents. The Endeavour Program held 12 camps during 1996.

Centacare's Family Life Education (FLE) is based on the principle that parents are the first educators of their children. Information nights on sexuality and relationships are offered in

Volunteers

Voluntary work provides an important contribution in meeting the needs of a community. In Tasmania, volunteers work in sport and recreation, health and welfare, education, community services, emergency services, religion, the arts, and the environment and heritage.

In the twelve-month period to June 1995, 78,900 people in Tasmania contributed 12.8 million hours of service. Females (41,600) contributed 7.0 million hours and males (37,300) 5.8 million hours.

Some 46.9% of all volunteers were involved in fundraising activities, 24.4% in teaching or instruction, and 10.8% were involved in providing personal care and assistance. In stating their reasons for becoming volunteers, 34.7% volunteered in order to help others in the community, 30.2% for reasons of personal/family involvement, 24.6% for personal satisfaction, and 4.9% to learn new skills.

In Tasmania, the Volunteer Training Service (VTS) receives funds from the Department of Community and Health Services to provide a Statewide training and support program. Auspiced by the Volunteer Centre, the VTS offers services to groups and organisations which in turn service the aged, the disabled, and their carers. Regional workshops and information sessions are provided, and a resource library is available. Mediation is provided to assist with conflict arising between volunteers and organisations.

**VOLUNTEERS, FIELD OF VOLUNTARY SERVICE,
TASMANIA 1994-95**

	Persons '000	Total hours provided million hr
Sport/Recreation	27.5	3.1
Welfare/Community	26.3	3.0
Health	5.2	0.6
Emergency Services	5.9	1.0
Education/Training	14.4	1.2
Religion	14.5	2.8
Environmental/Animal Welfare	2.3	0.2
Arts/Culture	1.7	0.1
Other	6.2	0.8
Total	79.0	12.8

(a) As a volunteer can work in more than one field, the figures for individual fields of voluntary work will not add to the total.

Source: ABS catalogue no. 4441.0

schools throughout Tasmania. Parents attend with their children so that they are also involved in the discussions.

Fertility Counselling and Family Planning is a Centacare service that specialises in promoting natural methods of family planning and health care. It is popular with couples who seek natural rather than artificial methods of birth control.

Accommodation

The Independent Family Accommodation and Support Program (IFAS) offers 7 independent

units, providing medium-term accommodation to single parents and their children.

The organisation also provides 2 emergency accommodation centres for families with financial and family problems: St Joseph's in Taroona and Barton Lodge in Mowbray.

They are staffed 24 hours a day, 7 days a week. Funding is partly provided through the Supported Accommodation Assistance Program (SAAP).

Adoption

Centacare is also a registered adoption agency, the only private agency in Tasmania. The services offered include counselling for birth parent(s) and their families, assessing couples who have applied for adoption, foster care of infants prior to adoption, special needs adoption and the preparation of court documentation. In 1996 six babies were placed for adoption.

Training

The Willson Training Centre is part of Centacare's Family Services. It provides training designed to meet the needs of industry. Training is provided to both the unemployed and 'fee for service' clients seeking to upgrade their skills. During 1996, 564 people were trained at the Willson Centre. The long-term unemployed are assisted through Centapact, a comprehensive case management program operating throughout the State.

The Salvation Army

The Salvation Army provides a broad range of services to disadvantaged and needy people. In Tasmania, services are divided into 5 primary areas: family and community services, aged care, rehabilitation services, employment and training, and disaster and emergency relief.

Family and community services

The Salvation Army provides family support aimed at assisting clients to escape poverty traps and live independently. Support includes financial counselling, advocacy and life education (budgeting, cooking, dress and grooming, conflict resolution and recreational skills). Intensive support services assist those with greater needs, such as the homeless amongst the disabled. In 1996 an average of 1,000 individuals or families a month sought help from the Salvation Army's 3 main centres in Hobart, Launceston and Burnie.

Throughout the State a variety of accommodation services are provided. In Burnie, Oakleigh House and Court provide emergency shelter for men, women and families. In Hobart, McComb House provides crisis accommodation for women and children. Hostel accommodation for intellectually disabled women is provided at the Elim Centre, while homeless men are accommodated in Salvation Army Supportive Housing.

Red Shield Family Stores operate in Hobart, Launceston, Burnie, Devonport and Ulverstone.

The nationwide recycling enterprise aims to provide free or low-cost clothing and household items to those in crisis.

The Salvation Army also provides an opportunity for people to meet and form new friendships. The Companion Club organises activities locally to provide opportunities for people to develop new interests, friendships and support.

Aged care

In recent years the community's focus has been to assist older people to remain in their own homes. The Salvation Army provides support through day care and outreach programs.

Where supported accommodation is necessary, Tyler House in Kings Meadows provides a 30-bed nursing home, a 24-bed hostel and 8 independent units. Levenbank in Ulverstone provides a 30-bed hostel and 13 independent units. In Hobart 10 hostel beds are provided at the Barrington Aged Care Unit, New Town and 30 independent units at MacFarlane Court, Lenah Valley.

Rehabilitation services

The Salvation Army Bridge Program adopts a community-based approach to support those with drug and alcohol-related problems. The Bridge team links a network of community services to meet each individual client's needs. The Bridge Centre in New Town provides residential treatment and links outpatient and aftercare services.

Employment and training

Assistance is provided to the unemployed through unemployment relief and job creation schemes. Further services are provided for people with severe barriers to employment. The Salvation Army is accredited nationally by the Employment Services Regulatory Authority to deliver case management to people unemployed for over 12 months. In Tasmania the Salvo Job Team Program is located in New Town.

Disaster-emergency relief

The Salvation Army plays a key role in the nation's disaster plan, by providing food during emergency operations. Mobile emergency units equipped with cooking facilities are located in Launceston, Hobart and Burnie ready to be transported to an emergency scene.

The Society of St Vincent de Paul

This Society is a voluntary, non-profit, charitable organisation providing:

- support to those in need of material (food, clothing, etc.), financial, emotional or spiritual help;
- accommodation for homeless men, young people, recent arrivals in the State (particularly refugees) and the aged;
- assistance to intellectually disabled people through supported employment, life skills training and a halfway house; and
- other general assistance, including help given through the secondhand shops, a home nursing service, meals on wheels, a child care centre, and an alcohol and drug dependency program.

The primary work of Society members is visiting people in their own homes. Where appropriate assistance may be given in the form of food, clothing, furniture, advice or friendship. Visits are made on a regular basis to facilitate the friendship aspect of their service. During 1995–96, 2,431 home visits were undertaken. Members of the Society also regularly visit public hospitals, nursing homes and Risdon Prison.

St Vincent de Paul offers accommodation services for various types of disadvantaged groups. Bethlehem House, situated in North Hobart, provides accommodation, meals, health and welfare support for up to 43 men each night. The House receives operational funding through the Commonwealth/State Supported Accommodation Assistance Program and the State Family Assistance Program.

Another of the services offered by the Society is St Vincent Industries Recycling Centre, which provides training and employment for 30 intellectually disabled people. The principal activities of the Supported Employment Centre are the collection and sorting of donations of clothing. The best items are given to needy families, while good items are sold in Society centres.

Other charitable works undertaken by the Society include Loui's Van, which offers food and friendship on the streets of an evening, and Saturday Knights, which provides light evening meals to frail, aged and isolated people. The

Society also organises camps and outings for children from disadvantaged families, and social and recreational activities for prison inmates.

The Hobart City Mission

Established in 1852, the Hobart City Mission is the oldest independent mission in Australia.

Programs

The Family Assistance Program, staffed by 2 full-time welfare officers, offers emergency relief and ongoing support to help break long-term dependency on the welfare system. Demand for the service is increasing as referrals from government and private organisations grow.

The Crisis Accommodation Program aims to provide a haven for victims of violence. Shelter for women and children is available and for women with teenage sons, a situation most other centres are not able to provide. The Nita Bradshaw Family Care Home offers long-term accommodation to 'at-risk' youth.

The Employment Simulation Program provides a work environment to prepare long-term unemployed for the discipline of full-time work. Workers carry out furniture deliveries and removals, gardening or waste rag preparation in a structured work environment.

The Community Living Program aims to provide a home environment for people with intellectual disabilities while developing life skills. In 1988 the Mission was approached by Disability Services to participate in the deinstitutionalisation of residents of Willow Court. Accommodation is provided for 19 people in homes throughout the community. The Lenah Valley Day Centre is currently being established to provide an opportunity for people with disabilities to learn new skills.

Funding

The Mission also operates various programs to raise funds, and provide a service for those in need. These include the Partridge Pot Cafe, Barrack Cottage and the Partridge Nest Secondhand stores. Other initiatives include the 'Ring Home' project run in conjunction with Telstra on Mother's Day and the annual August 'Sleepout' organised to raise awareness of the plight of the homeless.

Further reading

Other statistical tables relating to this chapter are located in the Historical Series at the back of this book.

ABS publications

Australian Social Trends, 1995 (4102.0)

Australian Women's Year Book, 1995 (4124.0)

Australia's Young People, 1991 (4123.0)

Child Care, Australia, March 1996 (4402.0)

Disability, Ageing and Carers, Australia series (4430.0–4439.0)

Focus on Families series (4417.0–4425.0)

How Australians Use Their Time — Selected findings from the 1992 Time Use Survey, Australia, 1994 (4153.0)

National Aboriginal and Torres Strait Islander Survey: Detailed Findings, 1995 (4190.0)

Persons Not in the Labour Force, Australia, September 1996 (6220.0)

Social Report, Tasmania, 1991 (4101.6)

Tasmanian Families, 1994 (4426.6)

Tasmania's Young People, 1993 (4123.6)

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Women in Australia, 1993 (4113.0)

Other publications

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Department of Social Security, *DSS Clients: a Statistical Overview 1995, 1996*

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Acknowledgements

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Department of Social Security, Statistical Information Section, Canberra

Department of Veterans' Affairs, Benefits Planning and Statistics Section, Canberra

The Glenorchy City Council

CHAPTER 14

Tourism



Photo: Graham Mitchell

Commercial ventures conduct rafting tours down the North Esk River. Rafting is undertaken for pleasure and recreation, encourages team-building and fosters confidence.

Tourism encompasses all short-term travel away from the normal place of work and residence, including that undertaken for business and pleasure. It includes both domestic and international travel and involves the consumption of a wide range of goods and services provided by, for example, accommodation establishments, transport and tour operators, museums and historic sites, restaurants, travel agents and souvenir retailers.

During 1996, 949,525 passengers (including Tasmanians returning home to the State) arrived in Tasmania, an increase of 8.1% since 1994 and a 38.8% increase since 1990. Approximately 88% of passengers arrived by air and 12% by sea. Sea travel became less attractive, with passenger numbers decreasing from 1994 by 10.2% to 115,486 in 1996. This trend may reverse with the Federal Government's decision to introduce the Bass Strait passenger subsidy (September 1996).

In the four months from September to December 1996 the number of vehicles carried by the *Spirit of Tasmania* rose to 26,544, an increase of 5,481 on the same period in 1995. Passenger numbers increased by 5,927 to 82,962.

The tourism sector continues to successfully market Tasmania as the 'natural state', promoting its accessible wilderness areas, clean air and water and quality foods, wines and crafts. The focus is on niche marketing rather than mass tourism and on establishing Tasmania as an increasingly popular destination for activities such as bushwalking, visiting historic sites and villages, craft shopping, trout fishing, horse riding, golfing and diving.

The annual Tasmanian Tourism Awards, organised jointly by Tourism Tasmania and the the Tourism Council of Australia, recognise and encourage excellence in business practice within the tourism industry. Tour operator Tasmanian

Wilderness Travel was a triple winner in 1997, receiving awards for general tourism services, tour and transport operators (major), and marketing and promotion.

Visitors

The total number of visitors to Tasmania in 1996 was 472,900, a figure roughly equal to the State's population.

The largest number of visitors came from Victoria (182,100) followed by New South Wales (111,100), the two major markets for Tasmania.

International arrivals accounted for 14.1% of all visitors to the State in 1996. The biggest increase

was in visitors from Asia (excluding Japan) whose numbers rose from 6,200 in 1995 to 11,300. However, Asian tourists still accounted for only 2.3% of all visitors to Tasmania in 1996.

North Americans (18,400) were the most frequent international visitors followed by continental Europeans (13,700) and visitors from the British Isles (13,200).

Before the Port Arthur tragedy in April 1996, overall visitor numbers to Tasmania had grown by an average of 6% a year from 1992 to 1995. However, Tasmania's summer of 1995-96 was the wettest on record and domestic growth in

ARRIVALS IN TASMANIA

Year	By air		By sea no.	Total no.
	Interstate no.	International no.		
1986	524 342	10 136	95 139	629 617
1987	526 517	9 446	88 343	624 306
1988	571 344	8 625	101 572	681 541
1989	449 481	8 489	118 646	576 616
1990	555 631	8 629	120 004	684 264
1991	625 366	5 897	131 375	762 638
1992	652 092	4 428	114 969	771 489
1993	694 244	5 144	115 381	814 769
1994	745 500	4 166	128 644	878 310
1995	811 784	3 982	116 869	932 635
1996	831 040	2 999	115 486	949 525

Source: Tourism Tasmania — Tasmanian Visitor Survey

ORIGIN OF VISITORS TO TASMANIA

Origin of visitors (a)	1993 no.	1994 no.	1995 no.	1996 no.
New South Wales	111 100	102 200	105 700	111 100
Victoria	161 200	176 600	176 800	182 100
Queensland	37 500	42 400	52 400	45 400
South Australia	24 800	32 900	32 200	28 400
Western Australia	17 700	20 100	20 700	23 200
Northern Territory	2 500	2 300	3 400	2 800
Australian Capital Territory	16 800	14 600	14 900	13 200
Total Australia	371 300	391 100	406 000	406 200
British Isles	10 500	12 800	14 400	13 200
North America	14 300	16 900	20 200	18 400
Continental Europe	10 900	15 100	13 500	13 700
New Zealand	6 700	7 800	12 000	7 100
Asia (incl. Japan)	5 100	9 600	6 200	11 300
Other overseas	2 100	3 200	7 700	2 800
Total overseas	49 700	65 300	74 500	66 700
All adult visitors	421 000	456 400	480 500	472 900

(a) Tasmanian Visitor Survey estimates do not include passengers on charter flights and crews of naval vessels. Cruise ship passengers are technically not visitors as most do not stay overnight.

Source: Tourism Tasmania — Tasmanian Visitor Survey

1995 slowed to 4%. On the other hand, international arrivals were up 15% that year.

After the Port Arthur tragedy, international visitor numbers fell in the three remaining quarters of 1996, for a total decline of about 10%. Domestic visitors remained almost the same, with slight increases of 3% from Victoria and 5% from New South Wales.

TOTAL ARRIVALS TO TASMANIA

Year	Passenger arrivals (a) no.	Adult visitors (b) no.
1988	681 500	365 300
1990	684 300	366 600
1991	762 600	404 700
1992	771 500	398 100
1993	814 800	420 200
1994	878 300	456 400
1995	932 600	480 500
1996	949 500	472 900

(a) Includes children and those who don't stay one night.
(b) Visitors who stay at least one night.

Source: ABS catalogue no. 1303.6 and
Tourism Tasmania — Tasmanian Visitor Survey

Visitor activities

In 1996, a total of 70,000 people visited Tasmania on business and a further 18,900 attended conferences or conventions. Sporting events, festivals and other special attractions drew another 31,700.

The number of people visiting the State on holidays increased by 7,300 to 352,300.

Historic sites maintained their position as the most popular attractions, drawing 55.9% of all visitors in 1996. The next most popular activities were visiting craft shops, browsing at markets, visiting antique shops, viewing gardens, visiting casinos and touring museums.

Bushwalking was also popular, with 139,500 people engaging in walks of less than two hours. Growth activities included winery visits, caving/cave visits and trout angling.

The single most popular destination was the Port Arthur Historic Site, which attracted 191,100 visitors. Other major drawcards were Sullivan's Cove/Salamanca Place, Cataract Gorge, Cradle Mountain, Mt Wellington and the Franklin-Gordon Wild Rivers.

HOLIDAY ACTIVITIES UNDERTAKEN IN TASMANIA

Activity	1993 no.	1994 no.	1995 no.	1996 no.
Visiting historic sites	260 600	286 600	272 900	264 400
Visiting craft shops	225 200	258 300	261 900	253 000
Browsing at markets	196 600	220 000	220 500	202 900
Visiting antique shops	141 900	155 200	149 000	147 100
Visiting gardens	133 500	152 400	148 000	145 200
Visiting museums	150 700	168 900	144 600	140 900
Visiting casinos	130 500	137 400	141 700	130 000
Bushwalking				
less than 2 hrs	138 500	161 600	140 300	139 500
2 hrs to all day	65 700	76 700	77 400	86 100
overnight or longer	13 100	13 200	14 900	17 500
River cruise (a)	112 000	122 800	131 200	124 800
Visiting wineries	49 300	54 300	55 300	63 800
Caving/visiting show caves	53 900	57 100	49 000	53 400
Tracing family/pioneer history	27 800	26 500	24 000	25 100
Boating/sailing	21 900	26 500	29 300	24 600
Theatre/performing arts	21 500	26 500	23 100	23 200
Scenic flight	16 000	18 700	16 800	15 600
4WD/recreational vehicle	16 400	21 900	15 400	15 100
Trout angling	13 900	14 600	13 000	13 700
Rafting	4 600	3 700	4 300	3 800
Canoeing/sea kayaking	5 100	2 300	1 900	2 400

(a) Includes Gordon River cruise.

Source: *Tourism Tasmania — Tasmanian Visitor Survey*

Visitor spending and length of stay

Visitors to Tasmania spent \$568m in the State in 1996, a per capita outlay of \$1,200. Of this amount, \$198m was spent on accommodation and \$133m on transport.

Short stay packages were increasingly popular during 1996, with the number of visitors staying between one and three nights rising by 10,800. The average length of stay for visitors was 9.7 nights.

ADULT VISITORS, SPENDING AND LENGTH OF STAY, TASMANIA

	Unit	1993	1994	1995	1996
Spending					
Accommodation	\$'000	147 000	168 000	204 000	198 000
Transport	\$'000	81 000	92 000	129 000	133 000
Other	\$'000	177 000	192 000	245 000	237 000
Total	\$'000	405 000	452 000	578 000	568 000
Per capita	\$	960	990	1 200	1 200
Length of stay per visitor					
1 to 3 nights	no.	106 900	126 000	123 500	134 300
4 to 7 nights	no.	125 900	147 900	156 200	152 700
8 to 14 nights	no.	128 400	134 200	139 300	128 200
15 to 30 nights	no.	48 400	37 400	45 600	43 000
31 nights and over	no.	11 400	11 000	15 900	14 700
Average length of stay	no. of nights	10.3	9.3	9.9	9.7

Source: *Tourism Tasmania — Tasmanian Visitor Survey*

PLACES VISITED IN TASMANIA

Places visited	1993 no.	1994 no.	1995 no.	1996 no.
World Heritage Areas				
Cradle Mountain	120 400	130 500	134 100	13 100
Franklin-Gordon Wild Rivers National Park	86 700	113 200	118 200	109 700
Gordon River	n.a.	102 200	103 300	94 100
Lake St Clair	73 700	71 700	73 500	73 800
Hartz Mountains National Park	18 100	23 300	24 500	22 200
Lake Pedder/Strathgordon	21 900	19 600	21 100	19 400
Walls of Jerusalem National Park	11 800	11 900	10 100	10 400
Southwest National Park	6 300	7 800	7 200	8 500
National Parks and Other Reserves				
Cataract Gorge	157 900	178 900	165 800	162 200
Mt Wellington	132 600	140 600	141 300	124 400
Coles Bay/Frcycinet Peninsula	63 200	73 500	78 800	81 800
Mt Field National Park	54 700	58 400	64 400	61 500
Abel Tasman Forest Reserve	7 600	9 700	21 100	23 600
Liffey Falls	14 700	19 800	23 500	21 800
Douglas-Apsley National Park	n.a.	9 700	16 800	18 900
Asbestos Range National Park	8 000	10 900	9 100	9 500
Maria Island National Park	8 400	7 600	8 600	8 000
Mount William National Park	10 000	5 100	5 800	4 300
Other Areas				
Port Arthur Historic Site	170 000	184 000	209 500	191 100
Sullivan's Cove/Salamanca Place	191 900	162 100	177 800	166 900
Hobart Botanical Gardens	89 600	93 900	87 000	81 800
Central Highlands/Great Lake	40 600	40 800	42 300	37 800
Mole Creek Caves	29 500	34 100	33 600	34 000
Hastings Caves	32 200	26 900	27 400	25 500
Bruny Island	15 500	16 400	18 300	25 500

Source: *Tourism Tasmania — Tasmanian Visitor Survey*

PURPOSE OF TASMANIAN VISIT

Purpose	1993 no.	1994 no.	1995 no.	1996 no.
Touring and sightseeing	189 900	221 800	227 800	219 400
Visit friends or relatives	114 900	112 300	117 200	132 900
Convention, conference and seminar	29 000	27 400	29 300	18 900
Business or employment	53 000	63 900	67 300	70 000
Sporting event	10 500	11 400	16 800	7 100
Special event or festival	4 600	6 800	4 300	6 600
Other	19 400	12 800	18 300	18 000
Total	421 000	456 400	480 500	472 900

Source: Tourism Tasmania — Tasmanian Visitor Survey

Intrastate travel

Tasmanians travelling within Tasmanian continue to make an important contribution to the tourism industry.

In 1995, Tasmanians undertook 2.4 million trips within the State, spending 6.2 million nights away from home.

Between 1993 and 1995, their expenditure per night rose by 9% to \$47 and expenditure per trip by 12% to \$119. The share of business trips increased from 14% to 18%, a rise reflected in the increased use of hotel/motel accommodation.

INTRASTATE TRAVEL, TASMANIA

	No. of trips '000	No. of nights '000	Spending \$m
1990	2 569	6 741	312
1991	2 771	7 406	324
1992	2 427	5 998	258
1993	3 040	7 525	321
1995	2 419	6 183	289

Source: Tourism Tasmania — Intrastate Travel Survey

ACCOMMODATION CAPACITY, TASMANIA

	At December	
	1995	1996
Hotel rooms with private facilities	3 566	3 532
Motel rooms	1 937	2 072
Holiday units	830	861
Caravan park sites, cabins	6 440	6 500

Source: ABS catalogue no. 8635.6

Accommodation

Since 1993 the number of motel rooms has grown by 13.1%, while the number of hotel rooms with facilities has increased by only 0.6%. However, both have had reduced growth in the past few years. Holiday units numbered 816 in 1994, grew to 830 in 1995 and increased further to 861 in 1996. Caravan park site and cabin accommodation experienced strong growth from 1993 to 1994, rising to 6953 units, but fell to 6500 units in 1996.

The March quarter is the peak occupancy period for hotels and motels. The annual room occupancy rate for hotels and motels increased — from 50.7% in 1993 to 54.0% in 1994, was similar in 1995 but fell to 51.8% in 1996.

ACCOMMODATION OCCUPANCY RATES, TASMANIA

Year	Hotel and motel rooms %	Holiday units %	Caravan park sites %
1986	52.6	56.3	22.1
1987	50.0	52.9	20.6
1988	46.5	51.9	20.2
1989	45.5	52.8	21.1
1990	48.5	56.8	22.1
1991	48.9	54.2	20.6
1992	51.2	50.1	(a) 25.1
1993	50.7	53.4	30.7
1994	54.0	54.8	30.1
1995	53.9	52.0	32.7
1996	51.8	48.9	33.5

(a) From September quarter 1992, the treatment for permanently reserved caravan parks has been changed. Total site occupancy rates for caravan parks from September quarter 1992 are not comparable with those of previous years.

Source: ABS catalogue no. 8635.6

1997 TASMANIAN TOURISM AWARDS: WINNERS

Major Tourist Attractions—*Cadbury Chocolate Tours*

Significant Regional Attractions—*Forest and Heritage Centre, Geelong*

Major Festivals and Special Events—*Agfest*

Significant Regional Festivals and Special Events—*Suncoast Jazz Festival*

Environmental Tourism—*Lemonthyme Lodge*

Heritage and Cultural Tourism—*Woolmers Estate, Longford*

General Tourism Services—*Tasmanian Wilderness Travel*

Meetings Industry—*Country Club Casino*

Tourism Retailing—*Stanley Craft Shop*

Tour and Transport Operators (Major)—*Tasmanian Wilderness Travel*

Tour and Transport Operators (Significant)—*Par Avion Wilderness Tours*

Tourism Associations—*West North West Tourism Association*

Tourism Marketing and Promotional Campaigns—*Tasmanian Wilderness Travel*

Industry Training (Private Sector)—*Novotel, Launceston*

Industry Education—*Drysdale Institute of TAFE*

Tourism Restaurants—*Moorilla Estate*

Wineries—*Hartzview*

Tourism Development Projects—*The Boardwalk, Wrest Point Hotel Casino*

Hosted Accommodation—*Arcoona, Deloraine*

Motel/Hotel Budget Accommodation—*Mountain View Country Inn, Deloraine*

Unique Accommodation—*The Lodge on Elizabeth, Hobart*

Superior Accommodation—*The Straban Village*

Outstanding Contribution By An Individual Tourist Industry Employee (State Award)—*Amy Limbrick, Wrest Point Hotel Casino*

Premier Tourist Town (State Award)—*Deloraine*

Tourism and the economy

Preliminary results from a 1997 study by the University of Tasmania's Centre for Regional Economic Analysis (CREA) showed that the contribution of Tasmanian tourism to the State's Gross State Product (GSP) and its employment continues to increase.

CREA based its study on an analysis of the economic impact of travel expenditure in 1995 and compared the results with the results of a similar study of 1992. The contribution to GSP increased from 7% (\$530m) in 1992 to 9% (\$735m) in 1995.

Of the \$735m contributed in 1995, \$248m came from Tasmanians, \$409m came from interstate visitors and \$77m from overseas visitors.

Jobs in tourism increased from 16,650 in 1992 to 18,700 in 1995, an increase of 12.4%.

Special events

Tasmania's calendar of special events extends over the whole year, and includes international, national, State and local sporting events, agricultural shows and floral festivals as well as craft, food, wine and entertainment extravaganzas.

The Sydney-Hobart Yacht Race, which celebrated its 50th anniversary in 1994, attracts yachts from throughout Australia and overseas as an internationally-recognised blue water ocean racing classic.

For the 1,000 men and women who sail through Sydney Heads each Boxing Day and head south, the 630-nautical-mile journey provides an enormous challenge. The reward is to be safely inside Hobart's Constitution Dock for reunions with friends, New Year's Eve celebrations and the city's enticing Taste of Tasmania Festival.

Wooden Boat Festival

The Australian Wooden Boat Festival, which occurs biennially in November, provides Tasmanian and interstate wooden boat owners with an opportunity to exhibit their craft and maritime skills around Hobart's waterfront.

Visitors to the Festival view demonstrations of age-old and contemporary maritime working skills such as steam bending, adzing and craypot making, as well as music and theatrical performances celebrating Tasmania's seafaring heritage. Throughout the Festival there are bands, choirs, folk groups, buskers and wandering minstrels, culminating in an evening of waterfront entertainment. Food stalls sell a variety of products including a wide array of Tasmanian produce.

The inaugural Australian Wooden Boat Festival, which was held on Hobart's historic waterfront in 1994, attracted an estimated 40,000 people. It prompted the visit of the *Endeavour* to Tasmania and 200 entries from 4 States, and New Caledonia.

The second Australian Wooden Boat Festival in 1996 was significantly expanded in terms of entries, exhibitions and displays, entertainment and other attractions. Over 200 entries ranged from dinghies and punts to tall ships.

The success of the Australian Wooden Boat Festival results from the interest of Tasmanians in their maritime heritage, innovation within the Festival, State Government support, and the family appeal of the event.

The week-long Taste of Tasmania is included in the Hobart Summer Festival, which is a month of diverse cultural activities held across the southern region. The Taste of Tasmania features 65 stallholders cooking up a storm showcasing Tasmania's gourmet food and wine. It coincides with the finish of the Sydney-Hobart Yacht Race and the waterfront festivities of the New Year's Eve celebrations.

Three other blue-water ocean races originate from Melbourne with the destinations of Hobart, Devonport and Stanley.

The Three Peaks Race, an annual competitive endurance running and yachting event, starts at Beauty Point near Launceston on Good Friday. It involves fleet calls to Flinders Island, Freycinet Peninsula on the East Coast and Hobart, with runners required to scale 3 mountain peaks en route.

Targa Tasmania is an intensive 6 day, 2,000 km international standard rally around the island for a maximum field of 280 classic, modern and 'thoroughbred' cars. Tasmania's highways and mountain and country roads are closed to all but the competitors during the special Targa stages, allowing vehicles to be driven as they were designed to be driven.

The Cradle to Coast race each March involves teams of competitors running, paddling and

cycling from Cradle Mountain through Tasmania's World Heritage Area to Coles Bay on the East Coast. During late winter a similar event, the Winter Challenge, with the addition of a snow-skiing leg starts from Mt Field National Park with a finish in Hobart.

The Tour of Tasmania is a 6-day competitive international road cycling event. It continues the rich history of cycling in Tasmania, the first Tour of Tasmania being staged in 1930 and won by the late Sir Hubert Opperman.

The Tasmanian Trout Fishing Championships held each November attract some of the country's best anglers to the lakes and streams of Tasmania's highlands.

A series of floral festivals and exhibitions are held throughout the State from September to May. These include floral shows, commercial ventures, public and private gardens. The beauty of Tasmania's native plants and blooms is evident in national parks and reserves.

On the first weekend in November, Deloraine, in the Meander Valley, hosts the largest working craft fair in Australia, the Tasmanian Craft Fair. The Fair showcases Tasmania's finest crafts and crafts-people and reinforces the national and international reputation for quality and unique design.

FURTHER READING

ABS publications

Tourist Accommodation, Tasmania (8635.6)

Motor Vehicle Hire Industry, Australia (8652.0)

Hospitality Industries, Australia (8674.0)

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The *Advocate*

Tourism Tasmania

Tasmania—Development and Resources

CHAPTER 15

Agriculture



Photo: The Examiner

A toddler seeing eye to eye with a southdown sheep at the 1996 Royal Launceston Show, which attracted 35,800 visitors.

Drought conditions eased in 1996; the, unseasonably wet weather early in that year caused severe disruption of some Tasmanian fruit and vegetable crops.

Heavy rains and hailstones in January and February 1996 affected apple and stone fruit crops. There was poor setting of apple fruit at critical times resulting in lower production of certain varieties. Although apples were plentiful in certain areas, their quality was low and their capacity to remain in storage was reduced.

Some vegetable growers also recorded lower production due to rain, hailstorms and frost. These included beans and potatoes where yields dropped significantly. Whilst some green pea and onion crops were also affected, production generally returned to pre-1995 drought levels.

The Tasmanian honey industry suffered considerable losses in production in 1995-96

because of adverse weather. Cold and wet weather reduced flowering and was also expected to impact on crops which rely on bees for pollination.

The easing of drought conditions and the wetter than usual summer and autumn resulted in an extended but disrupted hay cutting season. Total pasture cut for hay increased significantly in 1995-96 over the drought affected 1995 season.

Trade opportunities continued to develop for Tasmanian farmers. Following the apple industry's efforts to promote a disease free status, markets in China and Japan started to open up. Tasmanian cattle farmers continued to gain access to the competitive markets of South East Asia. However, in 1995-96, export prices became less favourable for Tasmanian farmers. A world oversupply of onions and declining consumer confidence in beef following an

outbreak of mad cow disease in Great Britain and an incidence of high bacteria levels found in beef in Japan depressed export prices for these commodities. Wool prices remain depressed.

A range of small developing industries including olives, alpacas, pyrethrum, saffron and poppies promise future growth. The viticulture industry in Tasmania continues to produce low volume but high quality table wines, and despite rain delaying the picking season, expansion is expected to continue. The value of the oil poppy crop continues to grow to the extent that it is now one of the State's most valuable commercial crops.

Farm finances

The annual Agricultural Finance Survey (AFS) collects information from farm businesses about their financial operations. Typically, data is collected about turnover, expenditure, value added, cash operating surplus, value of selected assets, capital expenditure, indebtedness and net worth of farm businesses. Each of these items is classified by 13 agricultural industries for each State and Australia. Information from the AFS can be used for the financial analysis of agriculture, and can be compared with financial information collected from other economic sectors.

PROFIT MARGINS FOR FARM BUSINESSES, TASMANIA

	Profit margin %	Return on farm operating costs %
1990-91	16.7	19.1
1991-92	14.4	16.3
1992-93	14.7	16.9
1993-94	16.1	18.8
1994-95	17.1	20.3

Source: ABS catalogue no. 7507.0

Turnover

In 1994-95, Tasmanian farm businesses generated \$570.6m in turnover from sales of crops, livestock, livestock products and other miscellaneous income such as land rent. Turnover in 1994-95 was down by 4.4% on 1993-94, following a substantial fall in the proceeds from livestock sales. Prices of meat cattle for slaughter fell during 1994-95 and sheep prices stayed down. The average turnover per Tasmanian farm business in 1994-95 was \$185,400, the lowest of any State, and \$33,800 below the Australian average. Preliminary estimates for 1995-96 showed considerable improvement in farm finances; turnover was estimated at \$706.4m, an increase of 23.8%, following increases in the proceeds from sales of crops.

The principal Tasmanian agricultural industries, in terms of turnover, were vegetable growing

Definition of terms

TURNOVER is the sum of all proceeds received by farm businesses in the year, for example: proceeds from sales of crops; livestock; livestock products and miscellaneous income items.

CASH OPERATING SURPLUS is obtained by deducting expenses from **TURNOVER**. These expenses include payments for fertilisers, seed, livestock, electricity, fuel, rates and taxes (other than income and company tax), wages and salaries, interest payments and rent.

PROFIT MARGIN is the ratio of **CASH OPERATING SURPLUS** to **TURNOVER**, expressed as a percentage. In effect, it represents the proportion of each dollar of turnover which converts into cash operating surplus.

RETURN ON FARM OPERATING COSTS is calculated by dividing cash operating surplus by operating costs. Farm operating costs are the sum of purchases and selected expenses plus rates and taxes plus insurance payments plus other expenses plus wages and salaries and supplements plus interest paid plus land rent paid.

TURNOVER OF FARM BUSINESSES, TASMANIA

	Aggregates			Averages		
	1993-93 \$m	1994-95 \$m	1995-96 p \$m	1993-94 \$'000	1994-95 \$'000	1995-96 p \$'000
Turnover	596.7	570.6	706.4	189.5	185.4	n.y.a.
Purchases and selected expenses	352.3	320.4	394.3	111.9	104.1	n.y.a.
Value added (a)	247.2	243.8	n.y.a.	78.5	79.2	n.y.a.
Cash operating surplus (b)	95.9	97.8	127.0	30.5	31.8	n.y.a.
Net capital expenditure	54.7	41.6	n.y.a.	17.4	13.5	n.y.a.
Value of assets	2 885.7	3 410.9	n.y.a.	916.4	783.3	n.y.a.
Gross indebtedness	480.5	462.1	n.y.a.	152.6	150.1	n.y.a.
Net worth	2 405.2	1 948.7	n.y.a.	763.8	633.1	n.y.a.

(a) Includes estimate for increase in the value of livestock. (b) Excludes estimate for increase in value of livestock.

Source: ABS catalogue no. 7507.0

(\$121.5m or 21.3% of total turnover) and dairying (\$120.7m or 21.2% of total turnover). Both industries are predominantly found along the north-west coast of Tasmania.

In 1994-95, the median turnover for Tasmanian farm businesses was \$98,300 (half of the businesses made less than this amount and half made more). The median turnover for all farm businesses for Australia was \$125,100, an indication that Tasmanian farming operations are significantly smaller than elsewhere in Australia. This in part accounts for the lower performance ratios. In 1994-95, an estimated 530 Tasmanian farm businesses had a turnover of \$300,000 or more. They accounted for 53.4% of all turnover generated, 44.8% of farm business cash operating surplus and 54.6% of farm debt. In 1994-95, almost 17.0% of Tasmanian farm businesses made a cash operating loss, and an estimated 9.0% made cash operating surpluses of \$100,000 or more.

Financial performance of Tasmanian farm businesses

Performance ratios indicate that Tasmania's agricultural industry is the lowest performing of any State. In 1994-95, Tasmanian farm businesses had a profit margin of 17.1%. This meant that for every dollar of turnover made, 17.1 cents of cash operating surplus was created.

In 1994-95, the only State with a lower farm business profit margin was New South Wales where farming was severely affected by drought.

Tasmania's two main agricultural industries (in terms of turnover) were vegetables and dairying. They had a profit margin of 22.4% and 17.4% respectively, in 1994-95.

Tasmanian farm businesses, return on operating costs in 1994-95 was 20.3%, i.e. for every dollar of farm operating costs incurred, farm businesses made 20.3 cents of cash operating surplus. The Australian average was 25.4%; only the drought ravaged farms of New South Wales had a lower rate of return (16.5%). Tasmanian farmers achieved a return on assets of 3.7% in 1994-95; the Australian average was 4.1%.

Tasmanian farm businesses had a debt to asset ratio of 1:5.2. In other words, every dollar of farm debt was backed by \$5.20 of assets. This was the lowest debt to asset ratio in the past six years. The Australian farm debt to asset ratio was 1:6.7.

SELECTED FINANCIAL STATISTICS, TASMANIA

	1993-94 \$m	1994-95 \$m	1995-96 p \$m
Sales from crops	197.7	193.2	307.7
Sales from livestock	175.5	124.8	153.6
Sales from livestock products	176.6	201.0	171.9
Turnover	596.7	570.6	706.4
Purchases and selected expenses	352.3	320.4	394.3
Cash operating surplus	95.9	97.8	127.0

Source: ABS catalogue no. 7506.0

Land use

Structure of the agricultural sector in Tasmania

There were 4,640 agricultural establishments operating in Tasmania in 1995-96. This was slightly more than the previous year as more farmers moved back into vegetables, grains, dairying and sheep farming after the easing of drought conditions.

Beef cattle farming remained the most common farming activity, with 25.2% of farmers reporting beef as their main activity. A further 11.7% of farmers combined beef with sheep and/or grain as their primary farming activity. Just under 70% of all farmers in Tasmania had some beef cattle on their property.

Sheep farming was the next most common activity, with 13.7% of farms running sheep as their main activity. As with beef cattle, sheep were popular amongst other farmers, with 43.4% of all farmers having some sheep.

Just under 13.3% of farmers in Tasmania grew vegetables as their primary activity.

The number of farmers involved with specialised livestock such as alpacas and emus has been rapidly increasing over recent years. In the last five seasons, these farmers have more than doubled in number, but still account for only 1.9% of all farmers.

The viticulture industry has continued to expand in Tasmania. In the 1995-96 season there were 68 farmers primarily involved in viticulture, an increase of 134.5% over the last five seasons. There were a further 16 farmers who grew some grapes as a sideline to their main farming activity.

A small number of producers accounted for much of Tasmania's agricultural output. For example:

- Barley: 4.0% of growers grew 23.1% of Tasmania's barley crop;
- Beef: 3.4% of beef cattle farmers accounted for 27.3% of Tasmania's meat cattle herd;
- Dairy: 5.9% of dairy farmers accounted for 25.1% of Tasmania's dairy herd; and
- Sheep: 6.7% of sheep farmers accounted for 42.6% of Tasmania's sheep flock.

In 1995-96, 19.9% of Tasmanian farmers ran dairy cattle which was a considerable fall from 20 years earlier when around 40.0% of agricultural establishments had cattle for milk.

Farming activity occupied 1,948,800 hectares, or just under one third of the total area of Tasmania.

COMPARISON OF TASMANIAN AGRICULTURE WITH AUSTRALIA

Commodity	Unit	Australian production 1995-96	Tasmania 1995-96		
			Tasmanian production	Percentage of total Australian production	Rank amongst all States and Territories
Grapes	tonnes	1 089 845.9	1 988.6	0.2	6
Apples	tonnes	280 146 564.0	52 398 161.0	18.7	3
Cereal crops for grain	tonnes	27 568 681.4	67 668.0	0.2	6
Hops	tonnes	2 618.0	1 930.2	73.7	1
Potatoes	tonnes	1 308 099.4	302 034.8	23.1	2
Green peas	tonnes	80 768.4	65 671.0	81.3	1
Onions (white and brown)	tonnes	244 484.1	91 119.2	37.3	1
All orchard trees (including nuts)	hectares	113 740.2	3 208.1	2.8	6
Vegetables for human consumption	hectares	131 421.3	19 793.2	15.1	4
Sheep and lambs	number	121 116 063	3 862 328	3.2	6
Dairy cattle	number	2 808 028	196 618	7.0	4
Beef cattle	number	23 569 377	521 002	2.2	7
Pigs	number	2 526 412	26 449	1.0	6
Deer	number	136 227	16 929	12.4	4
Total area of farm holdings	hectares	465 220 900.0	1 948 754.6	0.4	7

Source: ABS unpublished data

Agriculture and Soils in Tasmania

Fertility

Despite usually having a moderate organic matter content, Tasmanian soils in their native state are not inherently fertile for productive agriculture. Phosphorus and molybdenum are commonly deficient, while soil acidity can limit the growth of some plants. As in most of agricultural Australia, superphosphate has been widely used in Tasmania and, as in many areas with high rainfall and acid soils, molybdenum and lime have periodically been added.

The establishment of improved clover with grass pastures on many soils has increased soil nitrogen. Many soils in Tasmania's agricultural areas are low in potassium, so potash fertilisers are commonly used, particularly where rainfall is high or production and crop removal is intensive (e.g. dairy farming and vegetable cropping).

While initial soil fertility at the time of white settlement is largely unknown, it appears that the majority of soils have probably increased or maintained their fertility since the introduction of the fertiliser and cultural practices just described.

Unlike many other acidic soil areas in Australia, liming has been common in Tasmania, often to increase soil pH above its natural level. Lime is widely available and therefore relatively cheap to transport. Many crops grown in Tasmania respond to lime, including onions, poppies and barley.

Structure

Some soils, particularly the ferrosols (the red soils of the north-west and north-east, previously known as krasnozems) are of world-class quality because of their free drainage and good structure, but they can be easily degraded by compaction and water erosion.

Areas rated as potentially susceptible to severe soil-structure decline are those primarily used for vegetable cropping. Areas rated as moderate are those used for frequent cropping or forestry operations,

and the remainder of the State's private land, which is mainly used for pasture, is shown as having little or no soil structure decline hazard.

Soil acidity

There are a number of reasons why acidification of Tasmanian soils does not appear to be as rapid as elsewhere in southern Australia. Firstly, Tasmanian soils are already naturally acidic. Secondly, the generally moderate organic-matter in Tasmanian soils buffers them more against pH change. Thirdly, Tasmanian pastures generally contain a perennial grass that helps to restrict the loss of soil nitrate through leaching, a mechanism generally held to contribute to acidification in other parts of Australia.

Salinity

Apart from the Tamar Valley, King Island and Flinders Island, salinity is restricted to land systems with annual rainfall less than 750 mm and land systems cleared for grazing and infrequent cropping. Confirmed saline areas are therefore less than 1% of the total agricultural area of Tasmania. This is a relatively small problem compared with mainland states such as Victoria, South Australia and Western Australia.

Water erosion

- There has been no complete assessment of the extent, severity and rate of soil erosion in Tasmania. Areas of concern are:
- the red basalt soils of the north-west;
- the shallow soils on dolerite hills in the Midlands and Derwent Valley, where the north-facing slopes are denuded of vegetation in the summer and are then susceptible to sheet and rill erosion; and
- the soils derived from sandstone and mudstone in south-eastern and northern Tasmania; these have unstable subsoils conducive to both tunnel and gully erosion.

(Based on information in the *State of the Environment, Tasmania*.)

Crops

Just under 4% of Tasmania's agricultural land is used for cropping. Unlike mainland States, most of Tasmania's crops are smaller area intensive crops such as fruit and vegetables rather than broadacre crops such as wheat and barley. For instance, Tasmania is the smallest producer of cereals, growing less than 1% of Australia's cereals for grain. However, Tasmania is ranked third and second respectively among all States in terms of apple and potato production.

Cereals

Barley is the largest broadacre crop in Tasmania. In 1995-96, just under 38,500 tonnes of barley for grain were produced from 14,000 hectares. Just over 68% of barley was grown in the

Northern Statistical Division (SD), mainly around the Northern Midlands and Meander Valley municipalities.

Oats (18,400 tonnes), triticale (6,700 tonnes) and wheat (4,000 tonnes) are the other main cereals grown for grain in Tasmania.

Hay

In 1995-96, there was a big increase in the amount of hay cut as growing conditions improved after a few seasons of drought. Pasture cut for hay increased by 46% to 267,400 tonnes, with a further 10,500 tonnes coming from cereals cut for hay.

PRODUCTION OF PRINCIPAL CROPS, TASMANIA

Crops	1993-94 t	1994-95 t	1995-96 t
Potatoes	291 423	255 738	302 035
Pastures cut for hay	229 272	183 479	267 428
Onions	70 709	73 537	91 119
Peas, green (pod weight)	77 855	37 946	65 671
Apples	54 954	57 050	52 398
Barley for grain	40 755	27 073	38 463
Carrots	19 422	21 540	21 256
Oats for grain	12 744	11 287	18 445
Beans, french and runner	7 698	8 462	9 453
Wheat for grain	5 321	2 769	4 067
Grapes	1 125	2 201	1 989

Source: ABS catalogue no. 7114.6

GROSS VALUE OF CROPS, TASMANIA

Crops (a)	1993-94 \$m	1994-95 \$m	1995-96 p \$m
Barley for grain	6.1	6.1	9.3
Oats for grain	1.5	2.5	3.4
Wheat for grain	0.9	0.7	1.0
Apples	33.2	42.8	34.8
Pears (excluding nashi)	0.7	0.6	0.6
Apricots	0.4	0.8	0.4
Cherries	0.2	0.8	1.4
Raspberries	0.5	0.7	0.5
Grapes	1.7	4.2	8.7
Beans, french and runner	2.6	3.6	4.7
Peas, green	10.6	12.1	9.9
Potatoes	60.5	52.2	62.6
Carrots	3.4	4.8	4.6
Onions	19.2	16.8	19.9
Other vegetables for human consumption	18.7	20.3	28.7
Pastures and grasses cut for hay	23.6	20.6	27.5
Pasture seed (b)	2.1	1.2	1.7
Other crops	65.6	65.0	82.7
Total	251.5	255.5	301.7

(a) Excludes crops and pasture harvested for hay, green feed or silage. (b) Includes lucerne.

Source: ABS catalogue no. 7114.6 and unpublished data

Vegetables

Potatoes, onions and green peas are Tasmania's most important vegetable crops; together they accounted for 78% of the total area of vegetables planted.

Potatoes

The estimated value of Tasmania's potato crop for 1995–96 season was \$62.6m, making potatoes the single most valuable crop grown in Tasmania.

In 1995–96, the production of potatoes increased by 18% to 302,000 tonnes. Almost three-quarters of the crop was grown in a wide strip along the north-west coast from the Circular Head municipality, through to the Northern Midlands municipality south of Launceston, together with sections of the Dorset municipality in the north-east.

Since 1991, Tasmanian potato growers have largely abandoned insecticides in their fight against the potato moth, instead favouring release of bio-control wasps.

POTATOES, TASMANIA

	Area ha.	Production '000 t	Value \$m
1991–92	5 967	250	52
1992–93	6 116	270	54
1993–94	6 863	291	61
1994–95	6 068	256	52
1995–96	7 565	302	p 63

Source: ABS catalogue no. 7114.6

Onions

Tasmania's production of onions has increased by almost 29% over the last three years. In 1995–96, 91,100 tonnes of white and brown onions were harvested, much of this being exported. The top eight nations that Tasmania exported onions to were, in order, Germany, Japan, United Kingdom, Malaysia, Republic of Korea, Hong Kong, France and the Netherlands.

Green peas

In 1995–96, Tasmania produced 65,700 tonnes of green peas. But only 257 tonnes were sold as fresh produce; most of the peas grown are sold to processors and end up as frozen or tinned peas. Tasmania produced just over 82% of Australia's green peas for processing.

Apples

By far the most important fruit crop in Tasmania is apples, especially in the south of the State. In 1995–96, Tasmanian farmers produced 52,400 tonnes of apples.

The five most common varieties of apples grown in 1995–96 in Tasmania were:

- Red delicious (24,539 t)
- Golden delicious (8,881t)
- Democrat (4,128 t)
- Fuji (3,619 t)
- Granny smith (2,995 t)

Just under three-quarters (74.6%) of all apples produced in Tasmania come from the Huon Valley municipality. Growers in the Huon Valley produced 39,100 tonnes of apples, which was more than that grown in either Western Australia (38,200 tonnes), Queensland (28,400 tonnes) or South Australia (20,300 tonnes).

Preliminary estimates show the apple crop was valued at \$34.8m, which accounted for nearly three-quarters of the total value of all fruit grown in Tasmania.

APPLES, TASMANIA

	Trees '000	Production '000 t	Value \$m
1991–92	1 452	50.4	36.9
1992–93	1 506	56.2	41.0
1993–94	1 490	55.0	33.2
1994–95	1 583	57.0	42.8
1995–96	1 650	52.4	p 34.8

Source: ABS catalogue no. 7114.6

Grapes

Although the wine industry in Tasmania is small, it has developed an enviable reputation for producing premium-quality wines. This reputation is protected by the Tasmanian Appellation of Origin Scheme, a wine certification system which legislates to prevent wine producers calling a wine Tasmanian unless the wine has been produced from grapes grown in the State.

Over the last three seasons, the area of grape vines has increased by 25%. In 1995-96, there were 324 hectares of bearing vines in Tasmania. A further 63 hectares had been planted but were not yet bearing fruit. A total of 1,989 tonnes of grapes were produced; almost all were grown for winemaking.

Over half of all vineyards in Tasmania are situated in the George Town and West Tamar municipalities, on either side of the Tamar River. Other vineyards are found around Launceston, Hobart and along the east coast.

Four varieties of grapes accounted for just under 90% of all production: pinot noir (864 tonnes), chardonnay (664 tonnes), cabernet sauvignon (146 tonnes) and reisling (110 tonnes). Red grapes were marginally more popular with growers than were white varieties. Almost 93% of all growers had some pinot noir in their vineyard.

GRAPES, TASMANIA

	Area		Production t	Value \$m
	Vines-non bearing ha.	Vines- bearing ha.		
1991-92	67	19	629	0.9
1992-93	112	177	1 087	1.6
1993-94	106	260	1 125	1.7
1994-95	107	293	2 201	4.2
1995-96	151	324	1 989	8.7

Source: ABS catalogue no. 7114.6

Livestock and livestock products

Sheep and wool

The number of sheep and lambs in Tasmania increased by 9,400 (less than 1%) in the year ending 31 March 1996. Unlike cattle, sheep flocks are more evenly spread around Tasmania; although the average flock size in the Mersey-Lyell area of the north-west are larger than flocks in the Greater Hobart and Southern area.

Returns from slaughterings of sheep and lambs have increased significantly from \$12m to \$19m in the year ended 31 March 1996. However, after good sales in 1995, returns from sales of wool declined by 35% to \$67m in 1996.

SHEEP AND LAMBS SLAUGHTERED, TASMANIA

Year ended 30 June	Sheep '000	Lambs '000
1990	532.3	588.8
1991	448.3	555.9
1992	446.7	489.8
1993	473.4	456.5
1994	526.1	437.8
1995	569.3	477.2
1996	349.7	393.3

Source: ABS catalogue no. 7215.0

SHEEP NUMBERS AND WOOL PRODUCTION, TASMANIA

	Sheep numbers '000	Shorn wool production t
1989-90	5 336.8	24 104
1990-91	4 803.9	21 293
1991-92	4 294.8	17 845
1992-93	4 263.6	17 384
1993-94	4 323.9	18 633
1994-95	3 852.9	17 577
1995-96	3 862.3	15 997

Source: ABS catalogues no. 7114.6 and 7215.0

Cattle

Beef Cattle

Tasmania's meat cattle herd increased by 13,600 head (up 3%) in the year ending 31 March 1996. Although meat cattle are found in all parts of the State, the highest concentrations are in the north-west (King Island and Circular Head) and in the north-east (Dorset Municipality). Smaller herds are found throughout the Central Highlands and Northern Midlands municipalities.

About 58% of all farms with beef cattle had a herd size of less than 100 head. Most of the cattle in Tasmania are found in medium to larger herds; 65% of all beef cattle are in herds of between 100 and 1,000 head.

Tasmania almost exclusively produces grass fed beef for domestic and international markets. Tasmania has only one beef feedlot producing grain fed beef which is sold direct to a supermarket chain in Japan.

A combination of low beef prices, competition for similar export markets with the USA and consumer concerns over the safety of beef have depressed returns for beef over recent years. In 1994, the value for beef and veal in Tasmania was \$113m, in 1995 it was \$106m and by 1996 it had declined again to \$78m.

Dairying

Most of Tasmania's milk cattle are found in the north-west around Circular Head, Meander Valley, Wynyard and King Island, and in the north-east throughout the Dorset municipality.

The number of milk cattle has increased by 15% over the last three years, up to 196,600 head.

There was almost no change in the value of milk produced for human consumption in Tasmania in the year ended 31 March 1996. However, the value of milk used for manufacturing (milk powder etc.) has bounced back after a poor year in 1995. The value of milk used in manufacturing rose by 51% to \$122m.

Other livestock and livestock products

The number of eggs produced rose from 4,099,000 dozen to 4,152,000 dozen in the year ended 31 March 1996.

The number of deer declined from 18,000 to 16,900.

Pig numbers declined over the last three years, down from 45,500 in 1994 to 26,400 in the year ending 31 March 1996.

Production of honey declined by 24% in 1996, down to 741,200 kilograms.

CATTLE AND CALVES SLAUGHTERED, TASMANIA

Year ended 30 June	Cattle '000	Calves '000
1990	191.7	34.9
1991	191.3	30.6
1992	198.3	32.3
1993	189.4	32.7
1994	187.0	23.2
1995	207.9	28.8
1996	184.2	41.4

Source: ABS catalogues no. 7114.6 and 7215.0

CATTLE NUMBERS, TASMANIA

At 31 March	Beef cattle '000	Dairy cattle '000
1990	432.8	135.8
1991	444.4	139.9
1992	446.7	146.0
1993	445.2	159.5
1994	507.3	171.6
1995	507.4	185.6
1996	521.0	196.6

Source: ABS catalogue no. 7114.6

GROSS VALUE OF LIVESTOCK PRODUCTION (a), TASMANIA

	1993-94 \$m	1994-95 \$m	1995-96 p \$m
Livestock slaughtering and other disposals			
Cattle & calves	112.5	106.1	77.5
Sheep & lambs	13.9	11.7	18.9
Other (b)	12.0	21.7	21.6
Total	138.4	139.5	118.0
Livestock products			
Wool (c)	74.2	106.8	69.1
Milk	126.8	107.5	148.5
Eggs	7.2	7.7	9.3
Honey & beeswax	1.0	2.1	2.2
Total	209.2	224.0	229.1

(a) Includes the net export of live animals. (b) Pigs, goats and poultry slaughtering and other disposals. (c) Shorn (includes crutchings), fellmongered and exported on skins.

Source: ABS catalogue no. 7114.6

FURTHER READING

ABS publications

Agricultural Industries, Financial Statistics, Australia (7507.0)

Agricultural Industries, Financial Statistics, Australia, Preliminary (7506.0)

Agriculture, Tasmania (7114.6)

Livestock Products, Australia (7215.0)

Principal Agricultural Commodities, Tasmania (7111.6)

Value of Agricultural Commodities, Australia (7503.0)

Other publications

Department of Environment and Land Management, *State of the Environment Volume 1. DELM 1996*

CHAPTER 16

Mining

Photo: The Examiner



Mining has become a family trade for 3 members of the Fellows family who, between themselves, have clocked up 153 years at Pasminco's Rosebery mine.

Mining has been a cornerstone of Tasmania's economy for over 120 years. Over the last 10 to 15 years the mining industry has invested large amounts of capital in Tasmania, with the opening of the Que River, Hellyer and Henty mines, major redevelopments at the Renison, Rosebery and Beaconsfield mines, and the re-opening of the Mt Lyell mine. In addition, spending on exploration for new mineral deposits since 1984 has exceeded \$125 million.

According to figures obtained in an April 1996 survey by the Tasmanian Minerals Council, mining and mineral processing in Tasmania in 1995 generated \$1,202 million of total sales with export sales being \$671 million. This represents 40% of Tasmania's export income for that year.

In 1995 the mining and minerals industry directly employed 3654 people; spent \$654.5 million on goods and services, of which \$422 million was with or through Tasmanian

suppliers; and paid \$18.8 million in State Government taxes and charges.

Capital expenditure in mining extraction in 1995-96 was \$94 million, which was 16% of Tasmania's capital expenditure.

Prices for the majority of minerals drifted downwards over the year to June 1996, reflecting weaker than anticipated demand growth associated with the failure of some important world economies to grow at the predicted rates. Changes in average monthly prices between December 1995 and August 1996 ranged from no change for gold to falls of around 15% for nickel and more than 30% for copper.

Significantly improved average prices for most metals and mineral products are anticipated for 1997. Strengthening world growth from the last quarter of 1996 onwards, and limited prospects for substantial increments to production

GROSS STATE PRODUCT PRINCIPAL COMPONENTS, MINING,
TASMANIA

Year	Wages, salaries and supplements		Gross operating surplus	
	\$m	% of State total	\$m	% of State total
1989-90	154	3.7	100	3.1
1990-91	149	3.4	32	1.0
1991-92	108	2.4	68	2.0
1992-93	113	2.5	41	1.1
1993-94	121	2.7	43	1.1
1994-95	134	2.8	101	2.6
1995-96	147	2.9	128	3.0

Source: ABS catalogue no. 5220.0

capacity in many metal and mineral industries, will be the main factors driving this outcome.

Mining and the State economy

The mining industry's contribution to the Tasmanian economy can be assessed in terms of its contribution to gross state product (GSP). GSP is the valuation of all production exchanged in the market place in a given period. In 1995-96, the mining industry accounted for 2.9% of Tasmania's GSP.

Over the 5 years to 1995-96 the mining industry accounted for between 2.4% and 2.9% of Tasmania's wages, salaries and supplements. But the proportion of Tasmania's gross operating surplus attributable to mining has been more volatile. Over the same five-year period the proportion has varied from 1.1% to 3.0%. As well as the direct contribution to the Tasmanian economy through employment, the mining and mineral processing industries contribute through taxes and charges paid to State and local governments. Revenue from royalties and rents and fees from mineral lands amounted to \$7.13 million in 1995-96 compared to \$9.5 million in 1994-95; the decrease in revenue being due to the temporary closure of the Mt Lyell copper mine. The revenue collected was \$1.18 million above budget, mainly as a result of the sale of the Savage River Mines pellet stockpile.

A review of royalties on Tasmanian minerals and construction materials was completed and approved by the Tasmanian Government, although part of the new regulations were rejected by the Upper House. Further negotiations are to be held with the Tasmanian mining industry. For metallic minerals the

minimum amount of royalty payable in 1996-97 will be 1.2% of the net sales value of the mineral. The additional royalties are to be directed to the rehabilitation of degraded mining sites.

Other changes for metallic minerals royalties include a 5% cap on the total amount of royalty to be paid in any one year. The automatic entitlement to a reduction in the amount of royalty payable for the production of a metal has been removed, and the entitlement to a rebate against profits for exploration expenditure has also been removed.

Employment

Employment in the mining and mineral processing sector increased from 4,423 in 1994-95 to 4,669 in 1995-96, reflecting the resumption of mining operations at Mt Lyell, development of Henty, and the high level of contract employment associated with major capital projects.

It is expected that employment numbers will fall in 1996-97 due to the closure of Tioxide and Savage River. The recommencement of mining at Savage River by Australian Bulk Minerals will have some effect in 1996-97 but will not have its full impact until 1997-98.

Exports

The overall value of Tasmania's metal and mineral exports in 1995-96 was \$701.8 million, 13.4% higher than the previous year. Exports of iron ore and concentrates, tin ores and concentrates, iron and aluminium all grew in value by over 20%.

These results compare favourably to the national figures, with the value of Australian exports of metal and mineral products increasing by 12% over the year to June 1996.

SELECTED STATISTICS, MINING, TASMANIA

Year	Establishments no.	Net fixed capital expenditure \$m	Wages and salaries \$m	Employment at 30 June persons
1991-92	11	31.7	92.6	1 716
1992-93	9	29.0	89.1	1 526
1993-94	9	34.8	84.7	1 398
1994-95	9	44.6	77.0	1 086
1995-96 p	9	93.6	67.1	1 162

Source: Australian Mining Industry, ABS catalogue no. 8414.0

Exploration and development

The 1995-96 financial year saw a continuation of the strong growth in mineral exploration activity experienced in 1994-95, with annual mineral exploration expenditure increasing by 26% to \$18.7 million. This is the highest level of investment in exploration in over a decade. In 1995-96 Tasmania's share of national mineral exploration expenditure was 1.96%, an increase of 17% on the previous year.

Exploration licences cover 11% of the State and 29% of Strategic Prospectivity Zones. The total number of exploration licences increased from 136 to 141, with the area held increasing from 11,684 km² to 19,180 km². Although the area covered by exploration licences for metallic and non-metallic minerals declined from 8,170 km² to 7,359 km², expenditure per square kilometre increased by 38%, which may indicate a more focused approach to target selection.

Mineral operations, 1995-96

Metallic minerals

Base metals

Aberfoyle Resources Ltd. Hellyer Division

A total of 1,291,908 tonnes of ore at an average of 12.8% tin, 6.1% lead and 165 g/t silver was mined from underground sources. Waste rock mined during the year amounted to 71,810 tonnes. Concentrator throughput totalled 1.34 million tonnes. Concentrate production was zinc concentrate, 247,790 t at 50.3% zinc; lead concentrate, 59,412 t at 56.0% lead; bulk concentrate, 38,565 t at 32.8% zinc, 11.8% lead and 254 g/t silver; and copper/silver concentrate, 11,339 t at 11.0% copper and 4,476 g/t silver.

The total workforce at 30 June 1996 was 258, comprising 165 employees, 81 contractors and 12 apprentices and casuals.

The Hellyer mine has a remaining ore reserve life of only 4 years. Deep exploration drilling is being carried out in the same stratigraphic horizon as the known ore body in the hope of finding further reserves.

High intensity conditioners have been installed in the mill to improve lead recovery and enhance zinc circuit performance, which will increase revenue by about 5%.

MINERAL EXPLORATION EXPENDITURE (a)

Year	Tasmanian expenditure \$m	Australian expenditure \$m	Tasmania as proportion of Australian expenditure %
1991-92	7.8	603.7	1.29
1992-93	7.8	631.7	1.23
1993-94	10.2	792.6	1.29
1994-95	14.9	893.4	1.67
1995-96	18.7	960.2	1.95

(a) Other than petroleum.

Source: ABS catalogue no. 8412.0

**TURNOVER, PURCHASES AND SELECTED EXPENSES
AND VALUE ADDED, MINING, TASMANIA**

Year	Turnover \$m	Purchases and selected expenses \$m	Value added \$m
1991-92	382.6	179.2	204.1
1992-93	330.4	173.8	147.1
1993-94	343.7	188.3	165.4
1994-95	371.0	149.4	210.1
1995-96 p	381.2	170.3	217.6

Source: ABS catalogue no. 8414.0

Pasminco Mining, Rosebery

Despite depressed world zinc prices, Pasminco Mining Rosebery made an operating profit for 1995-96, the first time in 5 years that the mine has shown a profit. Deep exploration development and drilling are still on track to substantially increase the ore reserves and life of the mine, whilst \$7.5 million has been committed for surface drilling over the next 3 years to explore strike extensions of the defined ore resource. The company is also constructing a new tailings storage dam at a cost of \$2 million and a pump station at a cost of \$8 million.

A total of 597,606 tonnes of ore was mined at an average grade of 11.11% zinc. Underground sources accounted for 540,038 tonnes with the remainder (57,568 tonnes) being won by the mining of 2 small open cuts.

Concentrate production was zinc concentrate, 113,750 t at 52.15% zinc; lead concentrate, 20,050 t at 61.0% lead and 1,379 g/t silver; and copper concentrate, 4,650 t at 21.3% copper, 9.2% lead, 3,024.8 g/t silver and 70.1 g/t gold.

The number of employees at 30 June was 297.

Copper

Copper Mines of Tasmania Pty Ltd

In June 1994, the State Government signed a Memorandum of Understanding with Gold Mines of Australia (GMA) to take over the Mt Lyell lease on the departure of Renison Goldfields Consolidated. GMA established a subsidiary company, Copper Mines of Tasmania, to carry out work associated with the \$55 million refurbishment of the copper and gold mining operation.

Production, with a target rate of 3.5 million tonnes per annum (mtpa) within 3 years started at 1.5 mtpa in December 1995. The first 10,000 tonnes of concentrate was shipped in the March quarter of 1996. Stage 1A of the \$10 million main

tailings dam was completed in late April 1996. Planning is underway on the expansion to 3.5 million tonnes/year and research is continuing into value-added processing, including the production of copper metal after 3 years if adequate copper reserves are established. Total ore production was 938,753 wet tonnes at 1.17% copper. Concentrate production totalled 35,449 tonnes at 27% copper, at a recovery of 92.1% copper and 5.7% g/t gold. The first shipment of concentrate was made in March 1996.

Employment at 30 June was 260 comprising 98 employees and 162 contractors.

Gold

Beaconsfield Mine Joint Venture

Progress continued on the Beaconsfield gold project, a joint venture between Allstate Explorations NL, Beaconsfield Gold and Golden Shamrock Mines Ltd. The main activity undertaken at the old Tasmania mine during the past year was the de-watering of the mine, which progressed at a rate of 17 metres per month from July 1995. The Hart Shaft is now de-watered to the planned depth of approximately 400 metres and the 375-metre level is being developed in preparation for future mining. Other capital work included the installation of the permanent headframe and winder, and installation of a pumping station at the 181-metre level. Work has commenced on the feasibility study and a final decision to proceed is expected by mid-1997.

Goldfields (Tasmania) Limited

The Henty gold mine, operated by Goldfields Tasmania Limited, was officially opened on 2 July 1996.

It is the first new stand-alone gold mine developed in Tasmania this century and the first major gold discovery in the Mt Read Volcanics.

REVENUE, MINING, TASMANIA

	1994-95	1995-96
	\$m	\$m
Royalties	8.65	6.27
Rents and fees from mineral lands	0.08	0.78
Miscellaneous (a)	0.06	0.08
Total	9.51	7.13

(a) Sales of maps and publications, etc.

Source: Mineral Resources Tasmania, Annual Review 1995-96

The mine has been developed over the last 3 years at a capital cost of some \$55 million for mine development, including a 400-metre-deep internal shaft, gold processing plant and tailings disposal ponds. Up to 200 people have been engaged in development.

On current estimates of the ore resource, the mine is scheduled to operate for 4½ years at a production rate of 110,000 tonnes/year to produce 90,000 ounces of gold per year, although exploration at the mine, and in the Mt Julia area (about 1.2 km south) has produced encouraging results which may lead to an extended mine life. Permanent employment levels are expected to be about 70.

Iron ore*Savage River Mines*

Mining of the Savage River ore bodies to the final Savage River Mines pit design limits was completed in April 1996. A 2.7 million tonne stockpile of ore to supply mill feed for the remainder of the 1996 calendar year had been accumulated.

Extensive negotiations took place during 1995-96 to find a new operator for the Savage River iron ore mine. After over a year of discussions, the mine operators, Pickands Mather and Co. International, the Government, and the new proponent, Singapore-based Ivanhoe Capital Pty Ltd and its Australian subsidiary Goldamere Pty Ltd, trading as Australian Bulk Minerals, reached agreement regarding the transfer of ownership of the mine. Production is scheduled to recommence at the mine in October 1998.

Tasmania Mines Limited

Magnetite production from the Kara mine totalled 76,094 tonnes for the year, while scheelite concentrates produced contained 5,338 mtu's of WO₃.

A decision was taken towards the end of the year to restrict the production of run-of-mine magnetite to 20,000 tonnes to supply a cement manufacturer.

Tin*Renison Limited*

Ore production totalled 706,424 reconciled tonnes at 1.55% tin. Concentrate production was 16,090 tonnes at a grade of 51.7% tin, containing 8,319 tonnes of tin metal in concentrate. The workforce at year end comprised 257 persons, in addition to 90 contractors.

The \$38 million Rendeep development project at the Renison tin mine was completed during 1996. This project involved the mining of a 582-metre-deep internal shaft, the provision of associated underground crusher and conveyor systems for transporting ore to the surface, and the extension of the North Renison Decline at depth to access the high-grade Rendeep ore bodies.

This resulted in a substantially reduced average truck haul distance, making ore extraction from the lower ore bodies financially more attractive and adding at least 6 years to the life of the mine. Mine management is investigating the feasibility of downstream value adding by matt¹ furnishing or smelting to produce tin.

Spectrum Resources Australia Pty Ltd

Operational problems at the Anchor mine, resulting in poor plant availability for much of the year, were overcome and a total of 32,000 tonnes of ore at 0.44% tin were mined.

Capital upgrades will take place following the consolidation of existing operation and infrastructure. These will occur in the mill, with increased grinding capacity and improved ore handling being the primary objectives.

STRATEGIC PROSPECTIVITY ZONES, TASMANIA

SPZ	Area km ²	Occupied %
Arthur	591.1	53.3
Balfour	341.5	8.7
Beaconsfield	18.9	99.6
Cape Sorell	664.5	48.1
Mt Read	2 540.9	35.4
North-East	1 895.5	19.5
Zechar/Waratah	686.2	37.4

Source: Mineral Resources, Tasmania

Yolla Gas Field

Mineral Resources Tasmania

Tasmania is the only Australian State which does not have a source of piped natural gas available to its population and industrial base. Natural gas is the fastest growing energy source in Australia and would provide effective competition to electricity for a range of industrial and domestic services. Natural gas, in the raw state, contains the retail gas (methane) and liquid petroleum gas (propane and butane). A significant gas resource, rich in light hydrocarbons and liquid petroleum gas (LPG), lies off the Tasmanian coast in the Bass Basin, awaiting development.

The Bass Basin is located under the waters of Bass Strait, between Tasmania and Victoria, and is bounded to the east by Flinders Island and to the west by King Island. In 1985 a consortium headed by Sagasco Resources Ltd undertook a major exploration effort in this region. One of the successes of the exploration program was the discovery of the Yolla oil, gas and light hydrocarbon field. The Yolla structure is approximately 135 km north of Burnie in water 79 metres deep.

Yolla is interpreted as a complex structure which has formed as the result of a tectonic history of interrelated subsidence and compression. If commercial operations started at Yolla, it would yield a mix of assorted hydrocarbons including methane,

propane, butane and a light type of crude oil.

Since the initial exploration, there has been additional seismic interpretation over the entire Bass Basin, which has considerably enhanced the prospectivity of the area. In February 1994, the acquisition of 3D seismic data over the Yolla field commenced and took approximately one month to complete. In conjunction with the 3D seismic survey, the Joint Venture undertook an aeromagnetic survey of the field and integrated the results of the 2 surveys to better define the Yolla structure. The Joint Venture has spent in excess of \$3 million on these surveys to date.

For production to proceed, 3 holes need to be drilled to verify whether or not there are commercial quantities of gas. The exploration and retention licences held over the area have changed several times and are currently held, in the case of Yolla (T/RL1), by a consortium led by Boral Energy Resources Limited.

The major deterrent to further exploration and development of the Yolla field has been the lack of a guaranteed market for the gas. The size of the development required to bring gas ashore is too large for the Tasmanian market, without a new major industrial user. The consortium is continuing their efforts to secure such a market, either in Tasmania or on the mainland.

Coal

Two companies mine coal in the Fingal Valley to supply the domestic market. The Cornwall Coal Company operates mines near St Marys and a washery at Fingal, while the Merrywood Coal Company has sourced coal from the Royal George area and from north of Avoca.

Exploration has continued with the aim of delineating potential open-cut coal resources.

The Cornwall Coal Company (No Liability)

Raw coal production totalled 322,995 tonnes and coal sales for 1995–96 amounted to 208,327 tonnes. During 1995–96:

- Duncan Colliery—remained on care and maintenance for the entire year.
- Blackwood Colliery—raw coal production was 297,663 tonnes. Coal quality was variable, with areas of high ash content (25% washed coal) and low yields (down to 45% on a daily basis).
- Blackwood No. 2 open cut—15,044 tonnes of raw coal. Following coal depletion, the remaining area was rehabilitated.
- Huntsman No. 2 open cut—10,288 tonnes of raw coal. Coal quality was very good with ash content of 15–17% and yields above 80%.

Merrywood Coal Company Pty Ltd

Heavy rainfall between January and June 1996 resulted in very difficult and costly mining conditions in the open cut. Wall stability and the rehandling of overburden necessitated the use of extra equipment and a requirement for additional weekend work. Stockpiled low-grade raw coal was relied upon to maintain supplies. Coal sales totalled 182,000 tonnes from a total of 243,000 tonnes of raw coal processed.

COAL PRODUCTION, TASMANIA

Year	'000 t
1991–92	486.9
1992–93	494.9
1993–94	541.2
1994–95	607.9
1995–96	559.3

Source: Mineral Resources, Tasmania

Non-metallic minerals

Kaolin

Australian Paper, Tonganab clay mine

A total of 184,847 tonnes of clay was mined for immediate use or was stockpiled. Sales for the year amounted to 32,384 tonnes. Of this, 26,378 tonnes were railed to Burnie paper mill, with the balance being transported to Wesley Vale. Multi-skilling of the workforce has resulted in higher productivity and lower unit costs.

Limestone and dolomite

Beams Brothers Transport Pty Ltd

This company mines deposits at Flowery Gully and Cressy. Production for the year totalled 105,550 tonnes, comprising 28,550 tonnes of metallurgical limestone, 45,600 tonnes of Aglime and dolomite fines, 6,880 tonnes of aggregate for drainage and water treatment, and 24,500 tonnes of ironstone aggregate mixes.

Circular Head Dolomite & Trading Co. Pty Ltd

Production for the year totalled 31,207 tonnes of metallurgical grade dolomite and 59,290 tonnes of agricultural dolomite.

David Mitchell Limited (Mole Creek)

Sales of limestone and lime totalled 70,402 tonnes.

Goliath Portland Cement Company Limited

A total of 974,000 tonnes of cement was produced during the year from 1.485 million tonnes of limestone and 47,000 tonnes of clay quarried.

Production from the new quarry was reported as 434,187 tonnes. The number of permanent employees was 196 and 5 casuals and 16 contractors were also utilised.

Cement production by the Goliath Portland Cement Company Limited during the 1995–96 financial year approached one million tonnes. Almost 30% of the limestone quarried was sourced from a new quarry located to the north of the Railton plant.

A 1,000 tonnes per hour crusher is to be installed in this quarry, and will feed the plant via a trunk conveyor system. The project, expected to be commissioned in late 1997, will cost approximately \$16 million.

Pigments

Savage Resources Limited

No work was carried out on the yellow ochre, brown umber or black pigment deposits at the Savage River sites. Joint venture discussions with a USA and two Australian companies continued.

Silica flour

Cominex (Corinna)

Production for silica flour totalled 3,800 tonnes with a purity level of 99.8% SiO₂ and containing an average 12.6 ppm Fe₂O₃. The material was refined at Heybridge, with export sales of 3,190 tonnes. An exploration licence was taken out to investigate the potential for commercial deposits of high purity silica flour in the Arthur River area.

Construction materials

Besser Tasmania Pty Ltd

A total of 21,673 tonnes of sand and gravel was produced from the Calder leases.

Boral Resources

Production from Boral quarries Statewide amounted to 876,000 tonnes of crushed rock and 160,000 tonnes of sand and gravel. Forty persons were employed on a full-time basis.

Brambles Equipment

The total production from the quarries at Ridgley, Talisker and Western Junction was 50,000 tonnes of road gravel, 180,000 tonnes of road base, 350,000 tonnes of metal and dust, and 130,000 tonnes of various rock fills. The workforce consisted of 20 employees and 4 contractors.

Caroline Quarries

Production from the quarry at Railton was 29,430 tonnes of silica sand, 528 tonnes of general sand and 106 tonnes of concrete sand.

G.J. Crestwell's Transport Pty Ltd

Production of road-making material totalled 155,720 tonnes.

CRS Readymix

Production for the year totalled 161,156 tonnes of crushed dolerite.

Hobart Blue Metal Industries

Production for the year comprised 310,000 tonnes of crushed rock, 10,000 tonnes of gravel and 42,000 tonnes of sand. An average of 23 persons comprised the workforce.

Industrial Sands and Silica Pty Ltd

Five hundred tonnes of sand, 2,000 tonnes of metal and 35,000 tonnes of gravel were produced by 3 employees.

Pioneer Concrete (Tasmania) Pty Ltd

Production of crushed dolerite from the Flagstaff Gully quarry was 189,943 tonnes. This comprised concrete batching material (58,333 tonnes), Emolcum and Besser-grade material (18,994 tonnes) and road construction material (104,469 tonnes). Ten employees and 3 contractors were engaged in quarry operations.

D.J. and K.J. Rowell

The processing of 20,000 tonnes of material produced 12,000 tonnes of saleable siliceous sand.

Trident Consolidated Industries,

Quarry Division

Production totalled 55,000 tonnes of basalt and 38,000 of quartzitic sand and gravel.

Treloar Transport

Production for the year was 22,224 tonnes of sub-base 1 and 2 material, 9875 tonnes of base course material, 2593 tonnes of drain rock and 2,348 tonnes of pipe bedding material, a total of 37,040 tonnes.

Ceramics

The building industry throughout Australia is in recession. This has had a marked detrimental effect on brick and paver manufacturers.

K and D Bricks and Pavers

A total of 39,760 tonnes of marketable product were manufactured from 30,270m³ of clay and shale. Shipments amounted to 33,800 tonnes. Exports of bricks and pavers to New Zealand were increased. Thirty-five people are directly employed by the company.

Nubrik

Production for the year totalled 10.573 million brick equivalent units (including bricks, blocks and pavers). Materials quarried totalled 26,660m³, with 27,588m³ of material being processed. Sales totalled 10.350 million brick equivalents. The average number of employees for the year was 42.

VALUE AND PRODUCTION OF MINERALS, TASMANIA

	1994-95		1995-96		Change %
	t	\$'000	t	\$'000	
Gold	0.98	—	1.02	—	0.1
Silver	143	—	144	—	0.1
Zinc	177 263	—	198 376	—	11.9
Copper	15 064	—	11 481	—	-23.8
Lead	60 418	—	38 565	—	-36.2
Tin	7 461	—	8 647	—	15.9
Tungsten	39	—	77	—	97.4
Iron ore pellets	1 483 830	—	1 681 332	—	13.3
Others	136 603	—	114 512	—	-16.2
Total metallic minerals	—	355 211	—	338 056	-4.9
Non-metallics and fuel minerals	—	40 664	—	44 596	9.7
Construction materials	—	28 617	—	28 933	1.1
Metallurgical production from imported ores	—	609 664	—	572 811	-6.0
Value of mining and mineral processing sectors	—	1 034 157	—	984 396	-4.8

Source: Mineral Resources, Tasmania

Mineral processing operations

Comalco Aluminium (Bell Bay) Limited

Production for the year totalled 101,928 tonnes of aluminium ingots, bars and blocks. Raw materials consumed in the process included 200,000 tonnes of alumina, 45,000 tonnes of petroleum coke, 11,000 tonnes of liquid pitch and 4,000 tonnes of aluminum fluoride. The workforce at 30 June 1996 totalled 841 people, comprising 719 full-time, 4 part-time/temporary employees and 118 contractor full-time employee equivalents.

The continuing operation of Comalco's aluminium smelter at Bell Bay was secured following the signing of a provisional follow-on power agreement between the Hydro-Electric Corporation and Comalco late in 1995. This agreement, which was due to be finalised by the end of 1996, cleared the way for Comalco to commence its planned \$200-million five-year investment program to upgrade the Bell Bay plant and increase production of aluminium to 140,000 tonnes per year.

Hydromet Operations-Tasmania

A process plant to convert manganese mud into marketable manganese sulphate was commissioned at Risdon by Hydromet Operations-Tasmania in January 1996. The plant treats discarded material stockpiled by Pasminco Hobart. One thousand tonnes of manganese sulphate, containing 30% water soluble manganese, were produced.

The product was despatched to the fertiliser and animal feed industries within Australia.

Impact Fertilisers

Production of single superphosphate during the year totalled 112,348 tonnes, of which 41,239 tonnes were shipped to mainland ports. The process consumed 68,203 tonnes of imported phosphate rock and 39,995 tonnes of sulphuric acid supplied by Pasminco Metals-EZ.

IMP Silica

The silica flour operation produced 2,216 tonnes of saleable product from 3,360 tonnes of raw material; 2016 tonnes were shipped to Japan and the balance to the USA.

Pasminco Metals-EZ

A total of 207,839 tonnes of zinc and zinc alloys was produced. By-products produced included 392,302 tonnes of sulphuric acid, 26,912 tonnes of secondary leach residue, 318 tonnes of cadmium and 3,993 tonnes of copper sulphate. Zinc concentrate treated during the year totalled 428,409 tonnes, of which 218,049 tonnes were from Tasmanian sources. The permanent workforce was 656 with an additional 122 (employee equivalent) contractors being employed.

Work commenced at Pasminco Hobart on the conversion from jarosite to paragoethite production. This will eliminate the dumping of jarosite waste at sea off the coast of Tasmania, as paragoethite will be further processed on the

mainland. Pasminco is also considering an upgrade and expansion of the Risdon smelter that would require an additional block of power.

BHP TEMCO (Bell Bay)

Production for the year totalled 89,449 tonnes of ferromanganese, 99,666 tonnes of silico-manganese, 16,342 tonnes of fines and 243,656 tonnes of sinter. Furnace feed included manganese fines from Groote Eylandt, iron ore, silica, dolomite, limestone, coke and coal. There were 376 people employed as at 30 June 1996, including 21 contractors.

Feasibility studies are being conducted into new projects. There is a strong possibility that production capacity will be increased by 70% at the TEMCO (Bell Bay) plant with the addition of

a fifth furnace to produce high carbon ferromanganese and an increase in the capacity of an existing silicomanganese furnace. Also under consideration is the construction of a facility for the conversion of high carbon ferromanganese to medium carbon manganese.

Australian Titanium Minerals

A Queensland mineral sands mining company, Australian Titanium Minerals, has obtained the necessary approvals to mine sand in the Naracoopa area of King Island for the extraction of zircon, rutile and ilmenite. The operation will deliver substantial economic benefits to the King Island community, including the generation of between 45 and 55 direct jobs for the five-year life of the mine.

FURTHER READING

ABS publications

The Australian Mining Industry (8414.0)

Mining Industry, Australia Preliminary (8401.0)

Tasmanian Statistical Indicators (1303.6)

Actual and Expected Private Mineral Exploration, Australia (8412.0)

Other publications

Mineral Resources Tasmania, *Annual Review 1995-96*

Acknowledgments

Mineral Resources Tasmania

CHAPTER 17

Marine and coastal fishing

Photo: The Examiner



An East Coast producer of hand-made tea-tree and cane craypots makes between 1,100 and 1,500 pots a year, which are used by fishers around the State. Despite the advent of steel pots, many fishers still prefer tea-tree pots.

Tasmanian fisheries remain very important to the economic and social well-being of the State, particularly to coastal communities. Industry and Government are therefore currently developing various management and development plans to ensure that commercial and recreational fisheries will be sustained for current and future generations. The Tasmanian Aboriginal community also has a strong interest in the continued health of the State's coastal resources, and is actively involved in consultations on relevant issues.

Tasmania's commercial fishing industry has diversified in recent years as traditional fish species have become scarcer and more expensive. Aquaculture, a rapidly growing sector worldwide, is now a major component of Tasmania's fishing industry.

There are some complicated jurisdictional distinctions in the management of wild fisheries.

The State manages certain fisheries outside the normal 3 nautical mile State waters boundary. Most significantly, the State manages both rock lobster and abalone out to the 200 nautical mile limit of the Australian exclusive economic zone, or to the Tasmanian-Victorian border at 39°12'. The Commonwealth manages others, particularly the mobile pelagic species. Still others are to be managed under joint authority arrangements.

According to the 1996 Census there were 1,400 Tasmanians employed in commercial fishing, of whom 684 were employed in aquaculture, and 398 were employed in marine fishing.

This figure of 1,400 compares with 1,121 Tasmanians employed in commercial fishing at the time of the 1991 Census, and 1,028 at the time of the 1986 Census.

SEAFOOD EXPORTS, 1995-96

	Tasmania (a) (b)		Australia (a)	
	Quantity t	Value \$'000	Quantity t	Value \$'000
Fish				
Live	n.a.	141	n.a.	15 653
Fresh, chilled or frozen				
Whole	1 410	15 949	10 251	84 126
Fillets	329	4 114	2 669	16 222
Other	63	1 345	3 560	42 195
Total fish	1 802	21 549	16 480	158 196
Crustaceans and molluscs				
Canned	—	12	310	15 205
Rock Lobster	503	19 069	12 260	416 476
Prawns	—	—	13 074	223 041
Abalone	1 011	50 387	3 001	147 542
Scallops	35	823	2 737	66 832
Oysters	10	116	19	349
Other	80	3 303	6 045	76 563
Total crustaceans and molluscs	1 639	73 710	37 446	946 008

(a) Preliminary (b) State totals include Commonwealth fisheries exports.

Source: ABARE, Australian Fisheries Statistics 1996

The estimated value of fish landed in Tasmania in 1995-96 season from State and Commonwealth wild fisheries, was \$114.4 million, a 1% decrease on the 1994-95 figure. For the same period the value of aquaculture increased by 14%, from \$71.9 million in 1994-95 to \$81.6 million in 1995-96.

Legislative developments

It is the responsibility of Governments to manage and protect fisheries, on behalf of the general community. They must ensure that fisheries resources are used in an ecologically sustainable manner and as efficiently as possible, while yielding a return to the community.

These objectives were the primary motivation behind the introduction in 1995 of the *Living Marine Resources Management Act 1995 (Tas.)* and the *Marine Farming Planning Act 1995 (Tas.)*. These Acts, which came into effect in May 1996, allow the Government to manage Tasmanian aquaculture and wild fisheries while balancing the continued environmental sustainability of fisheries against the need to derive economic benefits from them.

Management plans

The *Living Marine Resources Management Act 1995* makes provision for the formulation and introduction of management plans to manage each of the State's wild fisheries. These plans go

through a comprehensive process of consultation and advice. The draft management plan for rock lobster was released for public consultation in June 1997, and those for the abalone and scalefish fisheries are not far behind. The whole set will be in place by the end of 1999.

The move to Management Plans is the main innovation in the Act, but it also updates a number of basic powers, particularly in regard to licensing and enforcement. The Act introduced new provisions in several areas, including the establishment of marine resources protected areas and the recognition of Aboriginal fishing rights.

Marine farming

The *Marine Farming Planning Act 1995* provides for the planned development, management and control of marine farming activities in Tasmania. Sustainable development of the aquaculture industry is to be fostered through the preparation of marine farming development plans, which establish the zones where marine farming is allowed in Tasmania's coastal waters.

The Act requires that an environmental impact assessment be made on each proposed marine farming development plan, and it provides considerable opportunity for community input.

The environmental impact assessment considers the impact a proposed marine farm will have in the planned zone. It considers visual, audible and debris impacts, as well as ecological impacts on water quality, the sea bed, and on existing marine and coastal ecosystems. Once these impacts have been identified, restrictions and environmental standards are set for sustainable management of marine farming in these zones.

The marine farming development plan outlines the extent and type of marine farming allowed and the management controls which apply within each zone. The zone is then available for lease applications.

Leases cover the water column, water surface and sea bed and are for 30 years, with an option to renew for a further 30 years. The Act also provides for cancellation of leases not developed within a reasonable period of time.

All marine farm lessees must comply with an environmental monitoring program which is specific to the species farmed. This program ensures closer management of farming activities through environmental monitoring and assessment.

By June 1997, 3 final plans had been implemented: Huon River and Port Esperance, D'Entrecasteaux Channel, and Tasman Peninsula and Norfolk Bay. Plans for Georges Bay (St Helens), the Furneaux Islands and Great Oyster Bay were under way; plans for Macquarie Harbour, Smithton, and Pittwater were scheduled to begin shortly.

Research and development

Research and development form an integral part of effectively managing Tasmania's fisheries. A lack of research can lead to poor understanding, inadequate management and over-exploitation of Tasmania's fish resource.

The Department of Primary Industry and Fisheries (DPIF) carries out research that focuses on assessing the status of wild fishery stocks and the capacity for Tasmania's marine environment to sustain aquaculture. It is also directed at developing new species and techniques to support the expansion of marine farming. Research is carried out in 3 main streams: assessment of wild fishery resources (principally abalone, rock lobster and finfish), aquaculture development and marine environment assessment.

Following the Premier's Directions Statement of April 1997, fisheries research in Tasmania is to be consolidated in a single institute. This follows the model of the Tasmanian Institute of Agricultural Research, which combines the resources of the DPIF and the University of Tasmania to achieve maximum efficiency.

Wild fisheries

Abalone

Two species of abalone are harvested in Tasmania: *Haliotis rubra* (Blacklip Abalone) and *Haliotis laevis* (Greenlip Abalone). Both species are mobile bottom dwellers that graze on drift seaweed and algae on rock surfaces.

Commercial fishing of abalone is carried out by divers using compressed air (usually supplied from the surface by hookah gear). The vast majority of the catch is taken close to shore in depths of less than 20 metres, although some divers work substantially deeper than this. Records indicate that abalone divers, on average, dive on about 45 days a year and spend 4.9 hours of those days in the water diving for abalone. In 1995–96 Tasmanian abalone production was 2,150 tonnes, valued at \$52.4 million.

The abalone fishery has been managed for over a decade by means of a quota system. The total allowable catch (TAC) was set at 2,520 tonnes in 1997, a 20% increase over the level of the previous few years. This was the first increase in quota since the introduction of quota management.

The TAC is divided into 3,500 parts, called abalone quota units. A diver needs to be authorised by the holder of an abalone quota unit before they can take the weight of abalone corresponding to the abalone quota unit. In addition, abalone diving licences, which permit a diver to fish commercially for abalone, are limited to 125 in number. These arrangements are not expected to alter significantly under the proposed Management Plan.

While the TAC limits the size of the legal catch, the legal minimum size limits provide further protection for abalone stocks. The size limits are set to protect a proportion of the reproductively active abalone population, thereby enabling all animals to have the opportunity to reproduce before they can be harvested.

**GROSS VALUE OF MARINE AND COASTAL FISHERIES
PRODUCTION, TASMANIA**

	1994-95 \$m	1995-96 \$m	Change %
Rock lobster	41.4	47.9	16
Abalone	59.7	52.4	12
Other fish (a)	13.9	14.1	1
Total wild fisheries	115.0	114.4	-1
Salmon	55.7	69.3	24
Trout	n.a.	n.a.	n.a.
Oysters (b)	15.2	11.1	-27
Other (c)	1.0	1.2	20
Total aquaculture	71.9	81.6	13

(a) Statistics represent catches by Commonwealth and State fishers from State waters. Includes shark from southern shark fishery and Jack Mackerel. (b) The reduction in value represents a change in statistical procedures and the elimination of previous double counting, rather than a real decline. (c) Includes mussels and cultured abalone.

Source: ABARE, Australian Fisheries Statistics 1996

Major consumer markets for live, fresh and frozen abalone are Japan and USA. Other markets include Mexico, Europe, Korea and China (including Taiwan and Hong Kong), with mainland China preferring the canned product.

Rock lobster

Tasmanian commercial fishing of the Southern Rock Lobster (*Jasus edwardsii*) has been one of the major contributors to the Tasmanian fishing industry for over a century. It is a high value product, like abalone, but is taken by a diverse fleet of about 320 vessels, many of which engage in some other fishing activities for at least part of the year.

In the 1995-96 season the commercial catching sector declared a catch of 1,838 tonnes. The average price received in 1995 was \$28.17 per kg, placing the value of production at \$47.9 million. It is estimated that approximately 800 people are directly employed in the fishery, assuming each vessel is manned by a skipper and one or two crew members.

The rock lobster fishery is both a commercial and recreational fishery. Commercial fishers' methods take rock lobster from coastal reefs over a depth range of 2 to 150 metres, using baited pots. Regulations require pots to have escape gaps to allow juvenile rock lobster to escape. Similar pots are used by many recreational fishers. Recreational fishers also dive for lobster, or use hoop style lift nets (rock lobster rings).

The commercial rock lobster fishing fleet comprises 320 vessels, ranging in size from 6 to

26 metres in length. Each vessel has a rock lobster pot allocation based on either length or tonnage, varying between a minimum of 15 and a maximum of 40 pots. A total of 10,507 pots are distributed throughout the fleet.

The fishery has hitherto always been managed by input controls, including limits on boat numbers and rules on the number and usage of rock lobster pots, the length of fishing season, and the minimum size of the lobsters. There are also controls on recreational fishing of rock lobsters that restrict access to one pot per licence holder, and impose a daily bag limit of 5 rock lobster and a possession limit of 10.

The Government has been developing a fishery management plan for the rock lobster fishery, based on a move to quota management. The new system is expected to begin in March 1998. The main motivation behind the proposal is to place a more effective cap on the commercial catch, which is believed to be running at levels significantly above what is sustainable.

Wild finfish

Despite the domination of crustaceans and molluscs in Tasmanian fisheries, the contribution of wild finfish is still substantial. In 1995-96 the landed value of all scalefish and shark was around \$14 million. Key target species landed in the fishery include Blue and Spotted Warehou (*Seriotelella brama* and *S. punctata*), Silver Trevally (*Pseudocaranx dentex*), various species of flathead (*Platycephalus spp.*), flounder (mainly *Pleuronectidae*), Jackass Morwong (*Nemadactylus macropterus*), Bastard and Striped Trumpeter (*Latridopsis*

forsteri and *Latris lineata*), and Garfish (*Hyporbamphus melanochir*), all destined for the table fish market.

Other important species include Jack Mackerel and shark. Although the dark oily flesh of the Jack Mackerel is not appreciated here, large quantities are converted into fishmeal. Catches have, however, been very variable in the past decade.

Shark, particularly School Shark (*Galeorhinus galeus*) and Gummy Shark (*Mustelus antarcticus*), are an important part of the catch in State fishing waters, in terms of both volume and value. Among the most widely distributed of all fish species, shark inhabit waters up to 2,000 metres deep, as well as shallow coastal waters, and sometimes venture deep inland into freshwater systems. The commercial catch supplies the table fish market, usually being sold as flake.

In 1995–96 the total catch of shark landed in Tasmania, from both State and Commonwealth waters, was 1,013 tonnes. However, the industry is in danger of over-exploitation throughout south-eastern Australia. Scientific studies have concluded that in Tasmania the current School Shark stock may be as little as only one-seventh of its original size, and that the fishery requires conservative management to avoid biological collapse.

Several protective measures have been put into place to try to reverse the trend. A number of significant bays and inshore waters have been defined for some years as shark nurseries, to protect young sharks and encourage rebuilding of the stock.

Recent developments in markets and fish handling have seen significant increases in effort targeted at species such as Banded Morwong (*Cheilodactylus spectabilis*) and wrasses (of the genus *Notolabris*). These rocky reef species are sold on the premium live fish market.

Potentially, about 850 operators are capable of fishing for finfish. The types of vessels involved range from small aluminium and wooden dinghies, to large steel vessels that take scalefish as part of diversified fishing operations (e.g. as an adjunct to rock lobster fishing).

A diverse range of fishing methods are used, including gillnets, hooks and beach seines fishing. Other fishing methods, including the use of purse seine nets, and the targeting of shark (by hook or large mesh gill nets), require additional separate licences and are subject to additional specific conditions.

The scalefish fishery has, until now, operated with minimal management controls in terms of limits on total catch and effort. Access to much of the fishery has been only restricted by the requirement that participants hold a fishing licence (vessel) (formerly the Tasmanian Fishing Boat Licence, or TFB�), and/or fishing licence (personal).

Other controls in the fishery include minimum size limits for key species, mesh size limits, and net length regulations for some gears. Many areas are closed for fishing, including shark or fish nursery areas, and areas vulnerable to netting such as river mouths and estuaries.

VALUE OF SELECTED WILD FINFISH CATCHES, TASMANIA, 1995–96

Species	Weight t	Value \$'000	Price \$/kg
Australian Salmon	413	426	1.03
Flathead	57	212	3.65
Flounder	34	158	4.70
Garfish	58	183	3.14
Grenadier	9	8	0.89
Ling	281	685	2.44
Mackerel (excluding Jack Mackerel)	2	9	4.28
Snoek (Barracouta)	20	12	0.59
Trevalla	439	2 013	4.59
Trevally (a)	6	9	1.51
Trumpeter	122	529	4.44
Tuna	n.a.	n.a.	n.a.
Warehou	110	121	1.09

(a) These figures are based on logbook returns and may not always distinguish accurately between similar species.

Source: Department of Primary Industry and Fisheries

Limits on fishing gear also apply in some waters. Under the new Fishery Management Plan it is likely that a more comprehensive and specific range of licences will apply.

Scallops

Traditionally, the Tasmanian scallop fishery operated as an adjunct to rock lobster fishing. Over winter, when lobsters were scarce or the lobster fishery was closed, fishers turned to scallop fishing to supplement their income. However, as a result of year-round fishing in the early 1980s (which was partially due to unrestricted licence issue), the State waters fishery was over-exploited and was ultimately closed in September 1987 to allow stocks to recover.

In 1995 the Tasmanian scallop fishery was re-opened after a period of closure of 8 years. During 1995, 113 vessels, mostly in the 10–20 metre length class, were entitled to a Tasmanian scallop fishing licence. The 1995 season was relatively successful with about 205 tonnes of meat being processed with an estimated wholesale value of \$2.8 million. Since then, however, stocks have been marginal and fishing effort very limited.

Predominantly, catches in south-eastern Australia comprise the Commercial (King) Scallop (*Pecten fumatus*). Other scallops of minor importance are the Doughboy Scallop (*Mimachlamys asperimus*) and the Queen Scallop (*Tiquichlamys bifrons*). All commercial fishing for scallops in south-eastern Australia is by dredging although diving has been popular in some areas. Dredges are typically 3–4 metres wide and equipped with a tooth bar or 'scraper' bar as the catching mechanism. Dredging, however, has been shown to be relatively inefficient and to have adverse environmental and fishery impacts. Research is continuing into new types of dredges with less damaging characteristics.

Regulation of the fishery is achieved through such measures as trip limits, based on vessel length, (the highest being 140 bags (units) per trip) and a minimum size limit, for Commercial Scallops, of 80 mm at the widest diameter.

Monitoring and enforcement

Within the wild fisheries the abalone, scallop and Jack Mackerel fisheries are managed and monitored through quota management mechanisms and other limits on total catch.

Legislatively entrenched reporting requirements ensure that the major regulatory authorities, the Tasmanian Police and the DPIF, have the necessary information to manage the resources in an environmentally sustainable manner.

The most comprehensive reporting requirements apply in the abalone fishery. Each diver must declare through the Abalone Diver's Docket the exact weight of abalone upon landing and various other details. The diver retains a copy of this information, a copy is sent to the DPIF (within 48 hours) and 2 copies accompany the fish to the processing premises.

The processor must complete the required information on receipt of the abalone from the diver, forward a copy to the DPIF and retain a copy. The DPIF therefore receives 2 copies of each abalone docket, which are cross-checked and compared with the record of authorisations for each diver.

This information, which enables analysis of the catch and effort, shows trends in the fishery and, in conjunction with information from the divers, is the principal method for assessing the status of Tasmania's abalone stocks.

Similar reporting requirements exist for the scallop fishery. The scallop fishery is managed through trip limits based on standard sized bags and vessel length. Fishers are allocated a tag for each bag to which they are entitled. All bags sold to processors must be tagged. Fishers are required to report information on landing, including the number of bags caught. Processors then give an estimate of the weight of the catch. As with abalone this information enables analysis of the catch effort, enabling appropriate measures to be implemented to effectively manage the scallop fishery.

In all fisheries, information provided by logbook returns is basic to assessment of the stock and hence to management decisions.

Research in wild fisheries

Most major fish stocks around Tasmania are fully exploited and some of the key fisheries may be over-exploited. The future development and security of these resources is dependent on fishing being managed to levels that are sustainable. Management decisions of this sort are critically dependent on research and assessment. The wider duties of government are embodied in the *Living Marine Resources Management Act 1995*, which explicitly

broadens the responsibility of management to cover the whole marine ecosystem.

The fishery management plans must follow principles of environmentally sustainable development. This requires measurable performance standards for stocks and ecosystems, and predictable management responses to change in stocks and the environment.

The goals of the various current research programs on wild fisheries therefore reflect the basic need for methods to monitor stock performance, knowledge of the dynamics of the species and the development and articulation of management advice. For example in 1995–96, a project commenced to investigate the impact of gillnetting on rocky reef fish; this was of particular relevance to management of the Banded Morwong fishery.

The research programs in the abalone and rock lobster fisheries are regarded as among the best in the world. In both cases sophisticated analysis of information provided by fishers is supplemented by independent surveys, and combined in models that now have years of development behind them.

Aquaculture

The water around Tasmania's coastline is relatively clean and unpolluted and its sheltered inlets provide ideal locations for aquaculture. Coastal marine and estuarine waters provide the basis for most of the marine farming in Tasmania. At June 1997 there were 143 separate marine farms on a total area of 1,888 hectares. The industry is concentrated mainly in the south-east of the State because of the cooler waters, range of sheltered inlets and proximity to infrastructure such as markets, transport services and airports.

Aquaculture is an increasingly important part of Tasmanian primary industry, and its total value is fast approaching that of the wild fisheries. Marine farming activity is primarily in Atlantic Salmon, Pacific Oysters and Ocean Trout. Other species produced include scallops, mussels, native flat oysters and abalone.

Environmental programs

As noted already, under the new legislation marine farming in Tasmania is required to abide by the principle of ecologically sustainable

development. The farms must be able to produce quality seafood commercially, year after year, without unacceptable change to the marine environment.

Marine ecosystems are very complex and there are many factors involved in determining the quantity of fish or shellfish that can be farmed in an area without causing unacceptable environmental change. These include currents, water exchange rates, and ambient nutrient concentrations.

The environmental objectives and standards that are specified in the marine farming development plans allow a cost effective, best practice monitoring program to be put in place, ensuring the long-term sustainable development of the marine farming industry.

This environmental monitoring will provide direct evidence of the state of the environment under and near each farm. Separate environmental monitoring programs have been developed for shellfish and for finfish marine farming activities.

At a farm level, programs will be tailored to the size and location of the farm, the species to be farmed, and the environmental sensitivity of the area. The results will show whether the impacts of the farms are extending beyond an acceptable level in the immediate vicinity. The data collected will improve the knowledge of effects of marine farming on the environment, enabling environmental criteria and standards to be refined and adjusted to local conditions. It will also provide important information to farmers on the sustainability of their husbandry procedures.

Atlantic Salmon

The Atlantic Salmon (*Salmo salar*) industry in Tasmania has developed in the past dozen years. The industry was established as a result of a joint venture project between the State Government, the Norwegian company Norqua and a group of private Australian companies.

The first 55 tonnes of salmon was harvested in 1985–86. This production has rapidly grown to an estimated live weight production harvest of 7,699 tonnes in 1995–96. Tasmania is the only State in Australia with environmental conditions suitable for sea pen culturing of Atlantic Salmon. Their growth in this environment is very rapid.

They grow from 80 grams to 4 kg in 12 to 15 months, making them the fastest growing salmon in the world.

Currently there are 36 permits for salmon production of which 15 are farming a total leasehold area of 280 hectares. The majority of salmon farms are located in the south-east of the State: D'Entrecasteaux Channel, the Huon River and Tasman Peninsula, but Macquarie Harbour on the State's west coast also has a number of salmon farms.

Industry farm gate value in 1996 was over \$69.3 million, at \$9.00/kg. The majority of salmon is sold as fresh chilled or head on, gutted and gilled. Value-added products include smoked salmon, caviar, and consumer sized packs of fillets and steaks.

Exports are primarily to Japan, although other markets include Singapore, Taiwan and Hong Kong. Tasmanian salmon attracts a premium price in the Japanese market, up to 20% above Norwegian salmon prices. Tasmania's export markets are subject to direct competition from Chile and New Zealand, but the industry has continued to experience relatively stable export and domestic market prices and has established itself as a supplier of a quality product.

Pacific Oysters

The Pacific Oyster (*Crassostrea gigas*) was introduced to Tasmania after the Second World War, but collection from natural spat settlements was marginal and unreliable. Since the 1980s, farmers have had access to reliable supplies of oyster spat grown in a hatchery environment. With this development the Tasmanian industry rapidly progressed into full commercial production and now leads the country in oyster culture technology.

Currently there are 93 leases, held by 67 lessees. The total area leased for oyster farming is 1,077 ha, 807 ha of which is in inter-tidal waters and 270 ha in sub-tidal waters. Of the total leased area, about a third is currently in production, one another third is unutilised but suitable for development, and the remaining third is not suitable for oyster production using current techniques.

Annual production of Pacific Oysters in Tasmania is currently about 3 million dozen oysters per year, worth approximately \$11.1 million. The industry is now well established, and is expected to continue expanding at a steady rate. About

85% of total production is sold fresh unopened; the remaining 15% is processed as fresh half shell or frozen half shell.

Approximately 14% of production is sold in Tasmania; most of the remaining 86% is sold to mainland Australian markets and 4% is sold overseas to markets such as Singapore, Hong Kong and Thailand. Japan is also an export destination following the signing in 1995 of a Memorandum of Understanding Agreement, which gives Tasmanian producers access to this very exclusive market. The operations of the Tasmanian Shellfish Quality Assurance Program give Tasmanian growers a definite advantage in this respect.

Scallops

The depletion of the wild fishery, especially in the 1980s, and the marked cyclical changes in scallop abundance, have encouraged the development of a cultured scallop industry.

Through cooperation between local fishermen, Japanese technologists and the Tasmanian Government, a company was set up to develop the culturing techniques for the scallop industry. It is based at Triabunna and has a special lease covering a substantial area of Mercury Passage and Great Oyster Bay. Three cultivation techniques are currently used: sea bed reseedling, cage culture and ear hanging culture. Hatchery production of juvenile scallops is being investigated, as are the export opportunities for cultivated scallops.

Blue Mussels

The Tasmanian Blue Mussel (*Mytilus edulis planulatus*) industry was established about 10 years ago. Cultivation of Blue Mussels resulted from diversification of oyster farming, while production has been supplemented through collection of spat harvested from wild stock attached to salmon cages. The spat is collected as part of the cage cleaning process and is cultivated on hanging ropes.

The industry has about a dozen producers, 7 of which account for 90% of production. In 1995-96 about 334 tonnes of marketable product was harvested, with a farm gate value of \$1.2 million, and it is estimated that with the current area available the industry has the capacity to produce 2,000 tonnes of marketable product. There is ongoing research by DPIF, the Tasmanian Mussel Growers Co-operative Society, the University of Tasmania, and a

Tasmanian cooperative, called Shellfish Culture, into improving spat production methods.

Tasmania provides marketable quantities of Blue Mussel 9 months of the year, with the added advantage of being able to supply over the winter period during the rest of Australia's mussel spawning season.

Tasmanian mussels generally receive a premium price in the market because of their large size, higher meat content and flavour. Mussel production is located mainly in the D'Entrecasteaux Channel, Huon River, Port Esperance, Tasman Peninsula and Norfolk Bay.

Emerging aquaculture possibilities

The development of new species for marine farming requires a considerable investment in specialist expertise and equipment. It also requires a long-term investment in activities for which there are often no direct beneficiaries, so government has always had some role in this area. Current research programs include the following examples.

Abalone

Two commercial abalone hatcheries were established in 1986 and advances in hatchery technology, genetics and artificial feeding have led to the commercial production of significant numbers of abalone seed on a regular basis. These hatcheries are now able to produce 1.5 million seed a year. There are 3 types of hatchery seed available for on-growing, Greenlip Abalone (*Haliotis laevis*), Blacklip Abalone (*Haliotis rubra*), and the hybrid 'tiger' species. The hybrid species currently produced has improved meat-weight-to-shell ratio growth characteristics, meat texture and shell lustre.

In 1996 the farm gate value of cultured abalone was \$80,000. As the price of abalone remains high and the market for entree size abalone is increasing, investors are looking to abalone culture as a medium-risk, high-return aquaculture investment. In addition to the 2 commercial hatcheries there are 9 farming operations, which may increase to 15 growing out and hatchery facilities within the next few years. Abalone farming is thought to have the potential to grow into a \$30 million industry within the next 10 years. Advances in abalone pearl culturing could also contribute to the industry in the future.

Greenback Flounder

Greenback Flounder (*Rhombosolea tapirina*) is a native species which has been identified as having potential for marine aquaculture. The Department of Primary Industry and Fisheries, in conjunction with the University of Tasmania's Department of Aquaculture, has successfully cultured several generations of flounder. The technology is now fairly widely known in the industry, with several commercial operators conducting production trials on juvenile flounder.

Striped Trumpeter

Finfish culturing is recognised as being an important part of the aquaculture industry in the future particularly as the world will experience shortages in the supply of white fish in the near future caused by declining wild catches and increased demand. Finfish aquaculture provides the best long-term solution to this problem.

At the Department of Primary Industries and Fisheries, Striped Trumpeter (*Latris lineata*) have been successfully spawned in an artificial environment, with juveniles being reared to 2 years of age. Technical difficulties with rearing have imposed delays on the research, but it continues to be pursued by university and DPIF researchers.

A number of market assessments have been made, with product samples being sent to Japan. Market research in Japan indicates that this product could command premium prices similar to those of salmon.

Seahorses

Research into the aquaculture of the Big Bellied Seahorse (*Hippocampus abdominalis*) is being conducted by a number of Tasmanian organisations, including several commercial operators. The University of Tasmania's Department of Aquaculture has successfully cultured 4 generations of seahorses and is currently investigating aspects such as spawning, mortality and optimum feeding regimes.

Marine reserves

It is now generally accepted, both in Australia and internationally, that marine protected areas contribute in a valuable way to the conservation of increasingly scarce marine resources. They do this by providing fish propagation areas from which new stock can replenish the surrounding waters, and by acting as benchmarks for

assessing change. Marine reserves also contribute to maintenance of biodiversity, provide insurance against possible fishery stock collapses, protect undisturbed ecosystems for scientific research, and provide sites for recreation and public education.

There are currently 4 marine reserves in Tasmania, and additional reserves are being planned. The existing reserves, declared in 1991, are located at Maria Island (1,500 ha), Governor Island (60 ha), Tinderbox (45 ha) and Ninepin Point (60 ha). They are managed jointly by the Department of Environment and Land Management and the Department of Primary Industries and Fisheries. The reserves operate on the 'no-take' principle, with no fishing permitted in the Governor Island, Tinderbox and Ninepin Point reserves and in the majority of the Maria Island reserve.

Recreational fishing

A feature of recreational fishing in Tasmania is the high level of community involvement in a range of fishing activities. This is clearly an important part of the lifestyle in an island State, endowed with plentiful and accessible marine resources. Also, with improvements in boats, fishing gear and access the potential impact of recreational fishing becomes steadily greater.

People fish for a variety of reasons, including food, sport, relaxation, enjoyment of marine beauty, friendship, family and excitement. The size of the catch is not necessarily the only measure of quality fishing, and the growing popularity of catch-and-release fishing means that catch no longer equates simply to fish mortality. The traditional aim of catching a 'feed of fish' is no less important than the anticipation, the preparation, and the experience itself.

The Department of Primary Industry and Fisheries administers all sea fishing, while freshwater fishing, including the famous trout fishery, is under the control of the Inland Fisheries Commission.

The fishers

A 1994 ABS sport and recreation survey found that fishing was second only to walking as the most popular physical recreation activity of Tasmanians. An estimated 30,900 people fished regularly fished during the 12 months to October 1994. The number of people who fished at least occasionally has been estimated at up to

100,000. Some 80% of these (24,800 people) were males. Most recreational fishers fished frequently, with 81% fishing at least once a month.

People of all ages fished: of those fishers aged 15 years and over, about 23% were aged between 15 and 24 years, 17% were aged between 25 and 34 years, 21% between 35 and 44 years, 19% between 45 and 54 years and 21% were aged 55 years or over.

Some 3,700 fishers stated that they belonged to a club or association during the previous 12 months. The Department of Primary Industry and Fisheries estimated in 1983 that over 80% of fishers fished in salt water, though of course many fish in both salt and fresh water. The Inland Fisheries Commission issued 30,439 angling licences for freshwater fishing in 1995-96.

Recreational fishing is also popular among visitors to Tasmania. In 1995-96 most visiting fishers came from Victoria (46%), and 27% came from New South Wales. A majority of overseas fishers were from the United States (40%); other countries of origin included Japan, New Zealand, Canada, the United Kingdom and Germany.

Main activities

Rock lobster

Rock lobster are caught mainly by recreational fishers using rock lobster pots and rings baited with fish, or taken by diving on reefs. Divers can use SCUBA and surface air supply.

Between November 1995 and June 1996, around 6,153 recreational licences were issued for taking rock lobster by pots, and 3,465 for diving. Some people have both, and all together there were 8,046 people with licences to take rock lobster recreationally. The 1996 survey showed that only about 85% of the recreational lobster pot and 78% of the lobster dive licences had been used.

Prior to November 1995, the non-commercial dive licence covered abalone, rock lobster and scallops. A licence is now required for each activity, which provides much better data on participation in the rock lobster fishery. In 1996 the Department of Primary Industry and Fisheries conducted the most sophisticated and comprehensive catch survey to date. It estimated that 111,000 rock lobster, or, 5% of the total catch, were taken by licensed recreational fishers in the period from November 1995 to June 1996.

Abalone

Abalone are taken by divers on reef areas around the State, often while diving also for rock lobster. The catch between November 1995 and June 1996 was estimated at 122,000 fish, or 4.6% of the total abalone take. Recreational divers reported catching 29 fish per licence, which equates to 6 per day fished over the survey period.

Of the 4,260 current licences held by abalone divers in June 1996, only 3,396 people (80%) had used their licence by June 1996.

Scallop

Recreational scallop fishing, using both dredges and diving, was once important in Tasmanian inshore waters, but since the collapse of the inshore fishery in the early 1970s, opportunities for recreational fishing in State waters have been limited.

A scallop season was opened in 1995 and again in 1996, in areas outside shark nursery areas. Participation in these years was low and was confined to diving.

Scalefish

A wide variety of scalefish species, as well as squid and octopus, are fished by using lines, nets and spears. The more popular species are flathead (several species), flounder (taken by spear and light), Australian Salmon, Pike, Trevally, Warehou, Bastard and Stripey Trumpeter, Morwong, Bream, Cod and various reef fish. Stocks of some species, particularly of the reef fish, have come under increasing fishing pressure.

Shark

Recreational fishing for School and Gummy Shark (with a bag limit of 2) is important in some areas, particularly off beaches in north-eastern Tasmania and around the Bass Strait islands. Shark fishing is also popular in the North West. Controls on commercial fishing have not removed the major concern about the sustainability of school shark stocks.

Game fishing

Tasmania is recognised internationally for its game fishing, and several world records are held. Fish are taken by trolling offshore, mainly on the east coast from Flinders Island to the Tasman Peninsula, between January and June.

Southern Bluefin Tuna (SBT) is the premier game species in the south, particularly around

Eaglehawk Neck. Fish average around 15 kg, but fish up to 40 kg are not uncommon. Yellowfin Tuna, which tend to be larger, are more common in the north. Stripy Tuna and Albacore Tuna are also frequently caught. Striped Marlin are often encountered, and small numbers taken.

Fifteen charter boats, used by over 5,000 people each year, operate in the fishery. In addition a number of people fish privately, often as members of one of the 4 game fishing clubs in Tasmania. A survey in the 1993 season indicated a catch of SBT from charter boats of 13 tonnes. The catch in 1994 was about half this level and the catch in the 1995–96 season was also down. Controls on commercial fishing, which takes most of the catch, have not removed concern over SBT stocks.

The trout fishery

Tasmania's inland fishing is dominated by the Brown Trout. Since being introduced in 1864 from England, it has thrived under Tasmanian conditions so that the fishery is essentially independent of stocking. The Rainbow Trout has not been as successful, although it inhabits most waters in low numbers, and many fisheries are maintained by hatchery liberations (as is the small Brook Trout fishery).

Several private trout fishing developments cater especially for anglers. They offer exclusive access to private lakes, together with on-site accommodation and optional guided fishing.

Although fly fishing captures much of the attention, recreational fishers catch far more trout on lure and bait in Tasmania. Only a handful of lakes are reserved exclusively for fly fishing, while a number of the best known waters are reserved for the use of artificial lures (lures and fly), but the great majority of lakes and virtually all rivers are open to use of natural bait as well. The Inland Fisheries Commission estimates annual catches of about 450,000 Brown Trout and 60,000 Rainbow Trout.

Economic impact

Investment in fishing assets, and the expenditure of those Tasmanians who fish, generates substantial economic activity and jobs throughout Tasmania. Coastal towns rely in part on expenditure by fishers to maintain business and to support the community infrastructure. The Department of Primary Industry and

Fisheries estimated over 10 years ago that, by applying national averages to Tasmania, the

likely value of tackle, clothes and boats owned by Tasmanian salt water fishers was around \$145 million, with an annual expenditure of \$49 million.

Salt water fishing was also popular among visitors to Tasmania. In 1992 about 16,000 visitors (about 4% of all visitors) fished in salt water and spent \$24 million in Tasmania.

In 1990-91 the Inland Fisheries Commission conducted a survey of both local and visiting fresh water anglers. This survey indicated that in a full season total annual expenditure by local fresh water anglers on fishing reached \$23.6 million, which equates to more than \$1,000 per angler.

In addition when visitors came here to fish, they spent a total of \$4.7 million in the State on fishing. When added together the Tasmanian fresh water angling industry was worth \$28 million per year. However, fishing was not an expensive recreation for most since, according to a 1994 ABS survey, 47% of fishers spent less than \$100 a year on their interest.

Management of the recreational fishery

Left unmanaged, the increase in fishing effort that results from competition and better gear leads to lower individual catches in the recreational fishing sector. It may also lead to over-capitalisation and reduced financial returns in the commercial fishing industry. But regulation is only part of the management process. Education of fishers and the community are the critical factors, along with community involvement in caring for the resource.

The Department of Primary Industry and Fisheries is developing a Recreational Fisheries Management Plan. It will explain the provisions applying to recreational fishing in all the other management plans, and include a few general rules for the fishery. The new licencing system introduced in November 1995 will remain in place, with only minor modifications. Fishing for rock lobster (by pot or diving), scallops and abalone, and the use of various sorts of net, are all licensed separately. No licence is needed to fish with a rod and reel, or a handline; perhaps the main complication is the system of local restrictions that apply mainly to netting.

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ACKNOWLEDGMENTS

Marine Resources Division, Department of Primary Industry and Fisheries, Tasmania

CHAPTER 18

Forestry

Photo: The Sunday Examiner



A Huon Pine raft on Lake Gordon, stockpiled by Forestry Tasmania, for gradual release to 4 West Coast sawmillers who hold the only licences to harvest the Huon Pine.

Almost half of Tasmania's land area is forested, including cool temperate rainforest, wet and dry eucalypt forest and plantations. Forests cover a total of about 3,317,000 hectares, or 49% of the State's area, compared with 59% at the time of European settlement.

Tasmania has a wide range of native-forest-based industries. These vary from woodcraft to wood fuels, from veneer manufacture and sawmilling to woodchip, pulp, newsprint and fine-paper making. Other important forestry sector industries include leatherwood honey production, tourism and recreational activities based in multiple-use forests.

In the 1996 Census, there were 1,819 people employed in forestry and logging. This compared with 1,638 in the 1991 Census, and 1,961 in the 1986 Census.

Publicly-owned forests

Tasmania is commonly regarded as the most studied and researched timber producer of all Australian States. In addition to the many environmental impact studies, industry and economic investigations at a State and national level, an independent Public Land Use Commission reviews land use issues within Tasmania.

About 36% of the forest is in multiple-use forest land, which means it is available for logging and replanting. One-third of this forest is inaccessible and managed for non-wood values, or protected by the Forest Practices Code. Private forest is also available for logging under the conditions in the Forest Practices Code. Forestry Tasmania manages 1.6 million hectares of these forests for wood production, recreation, conservation and other values.

About 30% of Tasmania's land area is in the World Heritage Area, national parks or other reserves which are unavailable for timber harvesting. This is the highest proportion of any State in Australia. Around 15% of forest land is managed by the Department of Environment and Land Management for conservation and recreation while 30% is privately owned and managed.

One-quarter of Tasmania's forests are protected in formal conservation reserves, such as National Parks and Forest Reserves, or are located in Recommended Areas for Protection.

Plantations

Tasmania has about 129,800 hectares of plantations located on private and State lands.

A high proportion of Forestry Tasmania's plantations are softwood, mainly Radiata Pine, but the proportion in hardwood eucalypt is gradually increasing. Forestry Tasmania encourages private growers to increase the areas of both softwood and hardwood plantations, which produce a range of products including paper, fibre board, sawlogs and veneer logs.

Non-wood values

Forests have intrinsic values, which include scenic values, cultural heritage, wilderness, water catchment, biodiversity and geodiversity.

These values may be protected by placing the forest in a conservation reserve, or special management zone. They may also be conserved through the employment of non-reserve methods, such as through operational prescriptions in the Forest Practices Code.

Visual landscape

The principal objective of managing the visual landscape in Tasmania is to moderate the effects of forest harvesting on the scenery. Forestry Tasmania manages landscape as a resource, and landscape analysis for forest harvesting is carried out in sensitive areas prior to harvesting.

Cultural heritage

Cultural heritage management covers both Aboriginal sites and historic sites. Forestry Tasmania has established a monitoring process for forests in relation to cultural resources management and the Forest Practices Code.

Biodiversity

The protection of forest biological diversity is covered by the Forest Practices Code, where forests are subject to commercial harvesting. This complements forests set aside in forest reserves. The status of rare, vulnerable and endangered animal and plant species is closely monitored.

Geodiversity

The forests also contain earth resources, including rocks, land forms and soils, which have conservation value. Inventory work is being done with the intention of establishing the location of significant sites.

Wood products

Tasmania's forests are the source of a variety of wood products including sawlogs, veneer logs and pulpwood. Harvesting of the forests for wood products is regulated by the *Forest Practices Act 1985 (Tas.)* which has a number of mechanisms to ensure that forest operations are conducted in an environmentally acceptable manner.

The Radiata Pine harvest has increased over the past 5 years. Hardwood forest products should increasingly be derived from hardwood plantations and regrowth native forests as Tasmania reduces reliance on oldgrowth forests.

Forestry Tasmania aims to reforest all public land that is harvested for wood products. Forestry Tasmania owns and operates the Forest Nursery in Perth, in the north of the State, which grows around 7 million trees each year.

Tasmania is committed to a sustained yield of a minimum of 300,000 cubic metres per annum of eucalypt sawlog and veneer logs from Crown multiple-use forest land.

Other products

Leatherwood honey is harvested from leatherwood-rich forests in the Southern Forests, and on the West and North-West coasts. About one-quarter of the leatherwood forests are accessible to commercial beekeepers, and about 85% of this is used. The apiary industry in Tasmania contributes over \$4 million per annum to the economy.

Sphagnum bogs are rare ecosystems in Tasmania, although a small annual harvest is allowed from State Forest.

STATE FOREST AND OTHER CROWN LAND, MANAGEMENT, 1995-96

	Unit	Quantity
Forest Estate		
Total State multiple-use forest	'000 ha	1 600.8
Plantations		
Total softwood area at 30 June	'000 ha	48.7
Total hardwood area at 30 June	'000 ha	13.7
Total	'000 ha	62.4
Forest Production Sales		
Native forests		
Veneer logs	'000 m ³	16
Sawlogs	'000 m ³	401
Pulpwood	'000 m ³	1 440
Softwood plantations		
Veneer logs	'000 m ³	4
Sawlogs	'000 m ³	351
Pulpwood	'000 m ³	276
Round timber	'000 m ³	20
Forest Product Sales Value		
Native forests		
Veneer logs	\$000	782
Sawlogs	\$000	9 307
Pulpwood	\$000	18 461
Softwood plantations		
Veneer logs	\$000	352
Sawlogs	\$000	9 945
Pulpwood	\$000	2 173
Round timber	\$000	247
Finance		
Operating Revenue, Grants and Reimbursements	\$000	56 285
Operating Expenditure	\$000	42 793
Dividend and Tax Equivalent		
Dividend	\$000	12 852
Tax Equivalent	\$000	5 057

Source: Forestry Tasmania

Dicksonia antarctica, the most common of 5 tree fern species occurring in Tasmania, is the only tree fern for which harvesting permits are issued. These tree ferns are harvested from Crown Forests in accordance with Forestry Tasmania's tree fern management plan.

Conservation, protection and recreation

Threats

A number of natural and man-made agents threaten forest, including wildfire, disease, insect and animal pests, weeds, roads and introduced animals. These are all subject to ongoing research and monitoring to improve operational standards.

National Estate

The main impact of National Estate listing is on intended or actual logging operations. Approval from the Commonwealth Government must be sought before planned logging for woodchip export is permitted in forests of the National Estate. It is estimated that 14% of multiple-use forest land and 4% of private forests are affected by this listing.

Community information and consultation

Legislation requires both the Parks and Wildlife Service and Forestry Tasmania to seek public input into management plans prepared for Crown Lands under their control. These 2 organisations are committed to providing educational information about forests and forestry to the general public.

Bats: Things that go bump in the night

Forestry Tasmania

One of Australia's most unusual census operations is taking place in Tasmania's State forests.

Rob Taylor, Principal Research Officer at Forestry Tasmania, is keeping track of populations of Tasmania's 8 bat species to determine the impact of logging activity on the bats. This will assist long-term management of their habitat in wood production forests.

Each bat species has a unique echolocation call, which is used to navigate and to locate flying insects, their food source. Science has taken advantage of this to keep track of populations in Tasmania. The calls of each species were recorded using electronic equipment with microphones sensitive to ultrasonic sounds, which were then converted to audible sound and recorded onto tape.

This process has helped Dr Taylor to develop a tool to identify the echolocation calls of each species of Tasmanian bats offering an easy method of monitoring populations.

No Tasmanian bats are considered to be threatened and all species are widespread and found in most forest types. However, maintaining a suitable and long-term habitat is necessary to ensure populations remain secure in the future.

Bats require old trees for roost sites. In wood production forests, roost trees are retained in a variety of situations. These include stream reserves, wildlife habitat strips and clumps of trees retained specifically for this purpose in and around logged areas.

With the conversion of mature forest to regrowth, the ability of bats to use regrowth forest for foraging needed to be better understood by Forestry Tasmania.

Dr Taylor's research found that because bats are able to fly up to 10 kilometres each night to forage, they are able to utilise regrowth forest for foraging by commuting from areas with hollows.

However, further research is needed to estimate the exact numbers of trees with hollows required to cater for the needs of future bat populations.

In addition, the Landcare program has been active in fostering community interest in tree planting, forest protection, bushland management and other forest-related activities.

Recreation

Tasmanians have a strong tradition of using forests for recreational purposes. However, there is a growing interest in the forests by interstate and overseas tourists, who are largely responsible for the growth in visitor numbers to forest attractions.

In 1995-96, there were around 350,000 visits to State forests and approximately 80 nature-based tourism operators.

Water quality

Water quality can be affected by the harvesting of forests, road construction, grazing, mining or other use of catchments by humans, especially when it is unregulated.

Timber Harvesting Plans under the Forest Practices Act identify water catchments and specify measures to protect water quality.

Private forestry

Tasmanian private forestry is forestry activity on privately-owned land managed for private commercial gain. Private forested land provides a significant contribution to long-term wood supply, the maintenance of rural income and the protection of conservation and land care values. In 1997, Tasmania's forests covered about 49% of the total area of the State, with private forests making up about 29% of the forest area; much more than in any other Australian State.

Market forces largely determine the level of commercial wood production on private land. As well as several large industrial forest owners, there are many individual private landowners with holdings ranging from a few hectares in size to over 100,000 hectares.

In 1994–95 over 50% of Tasmania's hardwood pulpwood was harvested from private land. In the same period, the mill door value of sawlogs and veneer logs harvested from private land was \$14 million. After processing, the value of the products from these sawlogs was \$60.4 million and from the veneer logs was \$1.6 million.

About 5,300 hectares of private forested land are dedicated as private conservation areas. Over 270,000 hectares are declared as Private Timber Reserves giving the landowners some additional security regarding harvesting rights.

The Forest Practices Code provides a uniform set of standards which apply equally to all land ownership types, including private forest land. The Code is designed to protect a range of important environmental values during forest operation, and to impose fines for failure to comply.

Until June 1994, private forestry in Tasmania had strong administrative links with the Forestry Commission (now Forestry Tasmania), most recently through the Private Forestry Council. However, under the *Private Forests Act 1994* (Tas.), responsibility for private forestry passed to Private Forests Tasmania (PFT).

PFT is a Tasmanian Government funded authority established to specifically promote and assist the private forest sector to sustainably manage native forests and encourage the expansion of plantations. It is unique in Australia and has a commitment to foster the use and value of trees in land management.

As part of its responsibilities, PFT carries out a regular review of the commercial private forest resource. The most recent review shows that up to 250,000 cubic metres of hardwood sawlog will be available annually over the next decade. Hardwood pulpwood availability will continue at about 3 million tonnes annually, with an increasing proportion sourced from plantations. A number of forestry companies, investment companies and landowners are establishing new hardwood and softwood plantations on private land at a rate of more than 4,000 hectares annually.

FOREST AREA ON PRIVATE LAND IN TASMANIA

	Area '000 ha	Proportion %
Commercial Native Forest	773	29
Plantations	75	3
Other (includes pasture)	1 840	68
Total	2 688	100

Source: *Private Forests Tasmania and Regional Forest Agreement documents 1997*

Forestry production

Before the commencement of woodchipping in 1970–71, the only details collected by the ABS were quantities of logs cut by sawmills and plywood mills, and rough-sawn timber produced (including a sawn timber equivalent of veneer production). These items were initially only classified by hardwoods (mainly eucalypt) and softwoods (mainly Radiata Pine). From 1984, figures on varieties of timber produced were collected in greater detail: eucalypt, other hardwoods (comprising Blackwood, Myrtle, Sassafras and Leatherwood), plantation pines (Radiata Pine) and native pines (Huon Pine and King Billy Pine).

In 1924 there were 176 establishments described as operating sawmills, rising to a peak of 366 in 1952. This number declined progressively as amalgamations occurred and larger and more efficient operations came into being. By 1987 the number had fallen to 136, and declined still further to approximately 125 actually producing in 1996.

The number of woodchipping locations grew rapidly from 8 in 1969–70 to 28 in 1972–73, and remained at around the 30 level until 1977–78, after which there was a steady increase to a peak of 36 in 1988–89. Then followed a decline, with 31 operating locations remaining in 1995–96.

Total log usage

Total log usage (later changed to log delivery) was only 389,400 m³ in 1924, rising to 1,101,300 m³ in 1969. Upon commencement of full-scale woodchipping operations log usage rose from 1,826,300 m³ in 1970–71 to a high point of 4,536,100 m³ in 1979–80, then declined slightly in 1983.

A peak of 5,071,200 m³ was reached in 1988–89 then in 1992–93 usage had declined to 4,233,700 m³. 1993–94 saw a slight increase but in 1994–95 total log delivery increased to 5,037,600 m³, almost rivalling the peak attained in 1988–89.

There were then 31 woodchipping locations in operation while the number of sawmills had declined. In 1995–96 log delivery declined again to 4,470,900 m³. The logs are utilised by both sawmills and woodchipping establishments.

From 1988, log deliveries were classified separately as coming from Crown or private land. In that year, 58% came from Crown Land and 42% from private land. As the private forestry industry developed, the Crown Land proportion fell to 55% in 1993–94, its peak having been 66% in 1991–92. From 1993–94 to 1995–96 the proportion of logs from private land increased from 45% to 47%.

**LOG USAGE AND PRODUCTION, TASMANIA
(green weight)**

	Total log usage '000 m ³	Woodchips produced '000 t	Sawn timber '000 m ³
1990–91	4 281.2	3 559.1	297.3
1991–92	3 978.7	3 356.0	297.1
1992–93	4 233.7	3 565.8	324.1
1993–94	4 349.2	3 726.1	348.0
1994–95	5 037.6	4 343.1	360.1
1995–96	4 470.9	3 820.1	349.3

Source: ABS catalogue no. 1303.6

Woodchipping

The advent of large-scale woodchipping operations in 1970–71 brought about an increase in forest-based production. Whereas there had previously been only a couple of pulp mills chipping wood for their own paper production, there were 3 major export chipping sites commencing operations: 2 on the Tamar River and one at Triabunna on the East Coast. These mills were equipped with a full range of wood handling, de-barking and chipping machinery, were extensively automated and situated at deepwater ports, utilising bulk-chip-handling conveyors and loading facilities for direct export by special container ships to Japan.

Initial production of 828,600 tonnes (green weight) of woodchips in 1970–71 was derived from 771,500 m³ of bush logs coupled with 125,000 m³ of off-cuts processed by sawmilling establishments with small, end-of-line chippers.

Many sawmills which previously had few avenues for disposal of their waste wood were now able to install a chipper and sell their chips to either local processors (pulp and paper manufacturers) or for export.

Usage of off-cuts (mill waste) to produce woodchips grew from the 125,000 m³ in 1970–71 to 268,700 m³ in 1973–74. Woodchip production fluctuated until 1980–81 when it peaked at 308,800 m³ of waste wood converted to woodchips. A dip in 1982–83 was in line with a similar decline in production from sawmills supplying the off-cuts. Over the next 5 years, usage rose steadily to another high point of 305,000 m³ in 1986–87. After a slight decline in 1987–88, usage gradually approached the 300,000 m³ level again, rising to 394,200 m³ in 1994–95 and a high of 457,900 m³ in 1995–96.

Chipping of whole logs began in 1970 with a modest input of 732,000 m³ and progressed over the next 10 years to reach 3,593,800 m³ in 1979–80. In 1988–89 the highest annual usage was recorded at 4,149,400 m³. Following a period of lower activity over the next 5 years, 4,064,100 m³ of logs were chipped in 1994–95, falling to 3,510,000 m³ in 1995–96.

Total production of woodchips reached 3,042,600 tonnes in 1973–74 and remained at about the 3,000,000 level until 1979–80 when output reached 3,673,000 tonnes. Following a decline to 3,118,600 tonnes in 1981–82, production climbed to 3,650,700 tonnes in 1984–85 and reached the (then) highest on

record of 4,260,500 tonnes in 1988–89. During the years 1989–90 to 1993–94 production varied at around the upper 3,000,000 mark. In 1994–95 production again increased and a new record level of 4,343,100 tonnes was reached. In 1995–96 production decreased to 3,820,100 tonnes.

Sawn timber

From a mere 155,400 m³ of sawn timber from the 176 mills existing in 1924 (apart from a decline in 1931 and 1932), production grew steadily. By 1955 a figure of 331,300 m³ was

achieved and 10 years later the all-time high of 420,200 m³ was reached. Thereafter followed a period of similarly buoyant production, until 1976 when production dropped below the 400,000 m³ level and fell to a low level in 1982–83 of 248,100 m³. After a return to near normal levels from 1984–85 on there was little expansion, (with production averaging above or around the 300,000 m³ mark) until 1993–94, when production rose to 348,000 m³, a level which has been maintained to the present time. The quantity of suitable log resource available for sawmilling has been a regulating factor affecting production levels.

FURTHER READING

ABS publications

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Other publications

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Acknowledgments

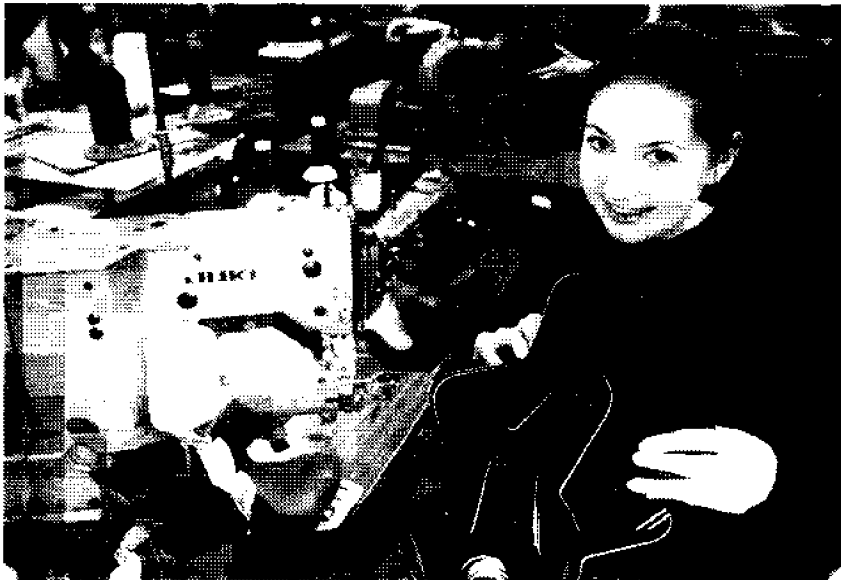
Forestry Tasmania

Private Forests Tasmania

CHAPTER 19

Manufacturing and energy

Photo: The Mercury



In September 1997, more than 2,000 Tasmanian textile, clothing and footwear workers won a reprieve from tariff cuts. Without the tariffs, employers such as Blundstone indicated that they could move offshore.

Turnover for the year 1994–95 by manufacturing establishments operating in Tasmania was \$4,353.7 million, which represented a 5.8% increase, in current price terms, from the \$4,114.2 million in turnover recorded for the 1993–94 year.

This has reversed the situation in 1991–92 when turnover, at current prices, for the manufacturing industry in Tasmania had fallen compared to the previous year. The 3 years from 1992–93 to 1994–95 have shown a steadily rising trend.

The percentage contribution by Tasmania to total Australian manufacturing turnover in 1991–92 was 2.3%. In 1988–89 Tasmania's contribution was 2.5%, falling to 2.3% in 1994–95.

Of the establishments operating at 30 June 1995, large establishments employing 100 or more people contributed 63.5% of total turnover, paid

64.1% of wages and salaries and provided 55% of the total employment.

Employment

Manufacturing employment continued to decline from the 1970s into the 1990s. In the early 1970s manufacturing employed over 31,000 people, but by 1992 that figure had dropped to around 23,700, a decrease of around 24%. The 1994 figure fell to 21,600 but rose slightly to 22,100 by 1995.

The industry subdivision of food, beverages and tobacco employed 5,800 people in 1994–95. The other main industry subdivision in employment terms was wood and paper products, which employed 3,900 people. These 2 industries accounted for nearly 44% of Tasmania's manufacturing workforce.

WAGES AND TURNOVER PER EMPLOYEE FOR MANUFACTURING

Year	Wages and salaries \$'000	Turnover \$'000
1989-90	26.0	153.9
1990-91	29.0	166.1
1991-92	30.4	166.1
1992-93	30.1	177.6
1993-94	29.6	190.2
1994-95	30.2	197.4

Source: ABS catalogue no. 8221.6

EMPLOYMENT IN MANUFACTURING

Year	Persons employed at 30 June '000
1989-1990	27.0
1990-1991	25.1
1991-1992	23.7
1992-1993	22.5
1993-1994	21.6
1994-1995	22.1

Source: ABS catalogue no. 8221.6

Manufacturing activity

Two industry subdivisions dominate manufacturing in Tasmania; both are based mainly on the processing of Tasmanian natural resources. The first is the food, beverages and tobacco subdivision, which had a turnover of \$1,292 million in 1994-95, when it accounted for 30% of the total turnover by the Tasmanian manufacturing industry, and employed 5,800 persons.

The second subdivision is the wood and paper products subdivision, which had a turnover of \$1,098 million, or 25% of the State total.

Manufacturing activity based on Tasmania's forestry resources is of great importance to the manufacturing sector and the State economy. At 30 June 1995 wood and paper products employed over 3,900 people or 18% of all manufacturing employment in Tasmania.

These 2 industries combined accounted for \$304 million in wages and salaries or 45% of total salaries paid. They also accounted for around 55% of Tasmanian manufacturing industry turnover.

By comparison the same industry subdivisions at the Australian level accounted for 24% of employment and salaries, and about 27% of turnover.

Major manufacturers

The companies that follow have been selected as representative of the various sectors within manufacturing in Tasmania during 1997, and are not necessarily the largest or those with the most employees.

Food and beverages**Cadbury Schweppes Australia Ltd (Claremont)**

The Claremont site was established in 1921 by 3 well-known confectioners, Cadbury, Fry and Pascall. The site was chosen for its clean air, moderate temperatures and for its access to a rich supply of high quality fresh milk. From these early days the Claremont site produced Pascall lines and later on, the world famous Dairy Milk Chocolate. The plant is the largest cocoa and confectionery factory in Australia, employing over 800 people.

MANUFACTURING ACTIVITY BY INDUSTRY SUBDIVISION, TASMANIA (a)

ANZSIC subdivision	1994-95	
	Employment '000	Turnover \$m
Food, beverages and tobacco	5.8	1 291.5
Textiles, clothing, footwear and leather	1.9	211.3
Wood and paper products	3.9	1 097.6
Printing, publishing and recorded media	1.8	157.0
Petroleum, coal, chemical and associated products	0.9	213.0
Non-metallic mineral products	1.0	249.7
Metal products	3.4	819.1
Machinery and equipment	2.6	254.8
Other manufacturing	0.8	59.7
Total Manufacturing	22.1	4 353.7

(a) Excludes establishments employing fewer than four persons.

Source: ABS catalogue no. 8221.6

During 1997 Cadbury will use about 63 million litres of fresh Tasmanian milk, which is processed at Cadbury's Burnie factory.

Tours of the factory, which began in 1930, were established to offer the general public the opportunity to view the manufacturing process of Dairy Milk Chocolate. The popularity of the tours grows annually with over 77,000 visitors during 1996. Cadbury Tours recently won the 1997 Tasmanian Tourism Award in the category of Major Tourist Attraction.

Cascade Brewery Company Pty Ltd (Hobart)

Cascade, Australia's longest-established manufacturing company, operates the country's oldest brewery. In 1992-93 it became part of a major Australian brewing group, Carlton and United Breweries, after being owned by New Zealand interests for a number of years. Cascade operates its historic brewery in Hobart, as well as the nearby Cascade beverage factory and the Woodstock reception centre. Their products include the flagship brand, Cascade Premium Lager, and other Cascade beers and stout, as well as cider, fruit juices, toppings, cordials and concentrates marketed under the brand names of Mercury, Apple Isle and Ultra-C Blackcurrant Syrup.

J. Boag & Son Brewing Ltd (Launceston)

Established by James Boag and his son in 1881, J. Boag & Son is considered to be one of Australia's premium breweries. The company takes care to source premium Tasmanian hops and malt which are batch brewed to produce traditional-style lagers and bitters. James Boag's Premium Lager has won national and international awards, most recently being voted Australia's best premium beer. The brewery has a flexible and versatile packaging line which produces kegs, a range of bottle sizes including products in premium-style packaging, and a full range of aluminium can sizes. J. Boag & Son also owns and manages the TGI Friday's and Wolfgang Puck restaurants franchises throughout Australia.

United Milk Tasmania Ltd (Wynyard, Spreyton and Leggerwood)

U.M.T. is a major producer and exporter of dairy products which include butter, cheese, milk powders, whey protein and lactose. Yearly sales to over 30 countries are worth around \$120 million. The majority of its product goes to Asian countries, Europe and USA.

In mid-1997, United Milk Tasmania opened new

manufacturing facilities at Spreyton, near Devonport, on the North West Coast of Tasmania, where company executives and administration offices are now located. The company is a co-operative owned by about 480 farmers throughout Tasmania.

Lactos Tasmania

After commencing operations in Tasmania in 1955, Lactos was acquired by the French company, Bongrain, in 1981. Bongrain opened a soft, ripened cheese factory in Burnie in 1985. In 1992, extensions to these operations were completed, bringing soft-ripened cheese production to 1,000 tonnes per annum.

A renewed focus on marketing and product development by management has led Lactos away from hard cheese markets to high-quality, speciality soft products. Lactos now has 50% of the Australian soft-cheese market. Export markets have been developed in Japan, Malaysia, Indonesia, the United States, New Zealand, Noumea, French Tahiti, South Korea, Taiwan, and South Africa. The company has expanded its line of 12 speciality cheeses with the introduction of a new washed rind cheese and Blue cheese, marketed under the 'DOMAINE' brand name.

Simplot Australia Pty Ltd

Simplot Australia is Tasmania's largest processor of frozen vegetables. The company, employs over 800 people and spends over \$70 million on 275,000 tonnes of locally produced vegetables.

The Ulverstone factory, the largest potato processing factory in Australia, was re-built in 1992-93. Using the latest technology, this facility supplies most of the french fries and chips used by McDonalds and KFC in Australia. The Ulverstone factory also produces hash browns and dehydrated potato granules. Export sales, made to a number of Asian countries, are expected to increase significantly in the short term.

The company's plant at Scottsdale processes potatoes, producing chips and gems mainly for the retail market. About one-third the size of the Ulverstone plant, this plant also exports to Japan.

The Ulverstone factory produces a range of frozen vegetables for local and export markets. In recent years the factory converted from part cannery, part frozen products to producing only frozen products. Its major products include peas, beans, carrots, and cauliflower.

McCain Foods (Aust) Pty Ltd

McCain frozen vegetables, including potato products, peas, beans, carrots and corn are marketed under the brand names of Pict and McCain. The factory at Smithton processes around 73,000 tonnes of vegetables annually and employs 300 full-time staff with up to 150 part-time staff in peak periods.

Clements Marshall Consolidated Ltd

Clements Marshall Consolidated Ltd. is the holding company for entities involved in a diverse range of agricultural and horticultural activities. The company operates at Devonport, Latrobe, Sassafras, Huonville, and Cygnet. These operations include apple growing, packing and exporting; apple processing; fruit and vegetable pre-packing and distribution; and onion growing, packing and exporting. In addition to the Australian domestic market, export markets include continental Europe, the United Kingdom and a range of countries in Asia. Its major brands include Poppy and Stork apples, and Clemar onions. The company is expanding its orchard development program.

Tassal Limited

Tassal Limited, a public company listed on the Australian Stock Exchange, is the largest fully integrated Atlantic Salmon producer in the southern hemisphere. The company is one of Tasmania's largest private employers and is an important contributor to the Tasmanian economy. The annual turnover for 1995-96 was \$60.2 million.

Tassal processes over 4,600 tonnes annually, much of which is distributed to meet the growing demand for salmon in the Australian domestic market. Major export markets were the Pacific Basin, principally Japan.

Blue Ribbon Meat Products

Blue Ribbon's business origins date from 1957, a year after Josef Chromy opened a small butcher shop at Burnie on Tasmania's North West Coast. The business expanded significantly and in 1993 the company was converted to a public company and listed on the Australian Stock Exchange. It has a workforce of nearly 500 people.

The company currently operates as one of the most diversified meat processing businesses in Australia, with domestic and export meat processing, by-products and smallgoods production facility. Blue Ribbon's export facility at Smithton ships high-quality meat to North

**FOOD, BEVERAGE AND TOBACCO
MANUFACTURING (a)**

	Employment at 30 June (b) '000	Wages and salaries (c)(d) \$m	Turnover (d) \$m
1989-90	6.6	149.1	1 123.4
1990-91	6.2	150.5	1 178.8
1991-92	6.1	154.5	1 182.5
1992-93	6.0	148.8	1 234.0
1993-94	6.0	165.4	1 342.3
1994-95	5.8	163.8	1 291.5

(a) Comprises ANZSIC subdivision 21. (b) Includes working proprietors. (c) Excludes the drawings of working proprietors. (d) Value data are at current prices and, therefore, do not discount the impact of price changes.

Source: ABS catalogue no. 8221.6

America, Japan, Malaysia, the Philippines, Taiwan, and Korea where Tasmania's products attract a premium price.

Aquatas Pty Ltd

Since Aquatas first started operating in 1987, it has grown considerably to become the second largest Atlantic Salmon farming operation in Tasmania. Sales for the financial year ended June 1996 totalled \$14.8 million.

About 40% of sales is exported to more than a dozen overseas markets, mainly in Asia. Over the 1997-98 financial year, in excess of 377,000 smolt (juvenile fish) will be grown and over 1400 tonnes of Atlantic Salmon harvested.

Seven farm sites, which comprise the main farming operations, are situated in the northern end of the D'Entrecasteaux Channel, south of Hobart.

Over the next 5 years Aquatas is planning to more than double its production with cumulative sales over the period of \$112 million. To support this growth, capital expenditure will be in the vicinity of \$15 million.

Aquatas currently employs 111 people and about 15 contractors. In addition, during the peak season, from August to April, employment numbers increase to about 140 (plus contractors).

Australian Hop Marketers

Tasmania's hop industry dates back to the 1830s, when hops were grown at Bushy Park in the Derwent Valley. The hop company, Henry Jones IXL, first bought property at Bushy Park in 1918 and by 1975 had ownership of all the hop properties in that area, now known as Bushy

Park Estates. In 1976 Australian Hop Marketers (AHM) was formed by Henry Jones IXL and the majority of Australian hop growers to market the hops grown by Tasmanian and Victorian growers. AHM is now the dominant hop grower, processor and marketer of Australian hops.

AHM, in Tasmania, has 3 major farms including Bushy Park Estates (southern Tasmania), Forester River Farms (north-east Tasmania) and Gunns Plains Hop Farms (north-west Tasmania).

AHM employs 70 permanent staff. The company supplies hops to the major Australian breweries and exports to over 20 countries in Asia, Europe and America.

Textiles, clothing and footwear

Sheridan Australia (Glenorchy)

The Hobart site was first established as Silk & Textile Printers in 1947 by Mr Claudio Alcorso. From 1947 through to 1970 a spinning, weaving, dyeing, printing and finishing textile operation was developed and eventually sold to Dunlop Australia Limited and re-named Universal Textiles Australia Limited.

Until 1978 the plant operated in the area of fashion textiles. Between 1976 and 1978, Pacific Dunlop established the business as Sheridan Textiles Limited concentrating on the marketing and sales of the Sheridan brand bed sheeting products.

In 1986 Sheridan Textiles was purchased by the Brenmoss Corporation and was subsequently renamed Textile Industries Australia Limited. 1996 saw the purchase of the bed linen business by C.S. Brooks Canada Inc. and the name change to Sheridan Australia. The company employs 105 people in Hobart and Sheridan bed linen is sold locally and overseas.

Blundstone Pty Ltd (Moonah)

Founded in 1870 in Hobart, Blundstone moved to its present location in Moonah in 1980. The company manufactures industrial, bushwalking and waterproof footwear for interstate and overseas markets, mainly Europe and the Pacific Rim. Blundstone Pty Ltd has 2 subsidiary companies; one manufactures gumboots, the other is a tannery. The company has won a design award for specially designed safety boots as well as an export award for excellence in expansion of export sales.

Australian Weaving Mills

Australian Weaving Mills are the largest weaving mill of towels in Australia. While the operation is geared to the plain-dyed towel market, the mill also has a jacquard business for beach towels and special designs.

AWM has recently been appointed as the only approved supplier of the Olympic towel products for the Sydney 2000 Olympic Games. To enable the Olympic contract to reach full potential, the facility at Devonport has been upgraded with new automated machinery.

A new distribution centre has been established on site, with the installation of the most modern warehouse technology, enabling world standard efficient and cost-effective service to customers.

Tascot Templeton Carpets

Tascot Templeton Carpets, the only carpet manufacturer in Tasmania, operates in the relatively small top end of the Australian carpet market. Established in 1961, the company has built up a reputation as a leading manufacturer of high quality Axminster, Wilton and Fusion-bonded carpets and carpet tiles.

The major portion of Tascot's business stems from the commercial sector, including hotels, clubs, restaurants, offices, theatres, and entertainment centres. In addition to servicing the Australian market, Tascot also exports carpets to New Zealand, South East Asia, the United States of America, and Canada. The company recently manufactured and supervised the laying of carpet for several overseas cinema projects in South America, South East Asia, and China.

The company's major carpet projects have been Parliament House in Canberra, the Regent Hotel in Melbourne and the Burswood Casino, Hotel and Convention Centre in Perth.

Tascot employs over 220 people at its East Devonport plant, with a further 25 sales and design personnel employed in other States. The company has recently installed a new \$1 million computerised jacquard broadloom from the United Kingdom, together with a sophisticated computerised design facility from Holland.

The Australian and New Zealand Standard Industrial Classification (ANZSIC)

A new industrial classification is now in use by the Australian Bureau of Statistics and others who want to compare, analyse and describe relevant parts of the Australian and New Zealand economies. It is called the Australian and New Zealand Standard Industrial Classification (ANZSIC).

It replaces the Australian Standard Industrial Classification (ASIC) which has been in use since 1969.

The objective in developing any national industrial classification is to identify groupings of businesses which carry out similar economic activities and which satisfy conditions such as economic significance. These groups can be used to define an industry; an individual business can then be assigned to an industry on the basis of its predominant activities. In this context any organisation which provides goods or services is a business, including companies, government departments and enterprises, and non-profit organisations.

Why change the industrial classification system? There have been significant changes in the Australian, New Zealand and world economies since the original ASIC. In particular, the ANZSIC is based on the following:

- a shift away from goods-producing industries to service industries;
- the desire for closer alignment of the ANZSIC to the International Standard Industrial Classification;
- rapid technological development; and
- user requirement for provision of separate industry categories.

The ANZSIC Divisions are:

- A Agriculture, Forestry and Fishing
- B Mining
- C Manufacturing
- D Electricity, Gas and Water Supply
- E Construction
- F Wholesale Trade
- G Retail Trade
- H Accommodation, Cafes and Restaurants
- I Transport and Storage
- J Communication Services
- K Finance and Insurance
- L Property and Business Services
- M Government Administration and Defence
- N Education
- O Health and Community Services
- P Cultural and Recreational Services
- Q Personal and Other Services

The ANZSIC, like the ASIC, has a four-level hierarchical structure comprising Divisions (the broadest level), Subdivisions, Groups and Classes (the finest level).

The Division provides a broad overall picture of the economy and is suitable for publication in summary tables in official statistics. There are 17 Divisions in the ANZSIC each identified by an alphabetical character. These replace the 13 Divisions in ASIC.

It is expected that ANZSIC will progressively replace ASIC as the industrial classification system used in both the public and private sectors.

Wood, wood products and paper products

Australian Paper Tasmania

These 2 mills at Burnie and Wesley Vale are part of the Fine Papers Group of Australian Paper which is wholly owned by Amcor Ltd. They produce a major share of Australia's fine printing and writing papers, magazine papers and coated papers. The Burnie pulp and paper plant commenced paper production in 1938 and has an annual capacity of 120,000 tonnes. It produces office and printing papers including Reflex and Glopaque. The Wesley Vale site is an integrated pulp and paper complex, which opened in 1970. This plant annually produces around 70,000 tonnes of un-coated paper, magazine and printing papers, as well as coating approximately 45,000 tonnes of paper for the Burnie Mill to produce high-quality book, magazine and label papers. About \$90 million is being spent at the 2 mills to improve environmental performance and to produce coated papers.

Australian Newsprint Mills Ltd (Boyer)

ANM's Boyer mill commenced operations in 1941 and now produces around 280,000 tonnes of newsprint and related grades annually. ANM, which is wholly owned by Fletcher Challenge Paper, also operates a newsprint mill at Albury in New South Wales with an annual capacity of around 210,000 tonnes. ANM is the only manufacturer of newsprint in Australia and the 2 mills supply 60% of Australia's requirement.

Over \$300 million has been spent at Boyer during recent years to upgrade equipment and improve environmental controls. The company has also spent \$100 million at Albury to install a large de-inking and recycling plant. This plant provides the Albury mill with 40% recycled content and the Boyer mill with 20% recycled content.

Boral Timber Division

Tasmanian Board Mills Limited

Tasmanian Board Mills Limited (TBM) is a wholly owned subsidiary of Boral Limited and has been a leading producer of Tasmanian Oak hardwood timber for over 50 years. In 1992 the company acquired the sawmilling interests of Risby Forest Industries at Austins Ferry in Hobart. This purchase effectively doubled the company's production capacity. TBM employs over 150 people at its 3 production plants located at Austins Ferry, Launceston and Western Junction.

These operations generate further employment for forestry harvesting and cartage contractors. The product range produced includes flooring, architraves, framing, door jambs, and components for high grade furniture. Timber products are sold in all Australian States and are also exported to Europe, Japan, and the United States.

19.6 WOOD AND PAPER PRODUCT MANUFACTURING (a)

	Employment at 30 June (a) 000	Wages and salaries (c)/(d) \$m	Turnover (d) \$m
1989-90	6.2	179.3	1 130.6
1990-91	5.6	193.4	1 117.2
1991-92	5.1	207.5	970.5
1992-93	4.5	172.8	953.8
1993-94	3.5	111.8	886.6
1994-95	3.9	139.8	1 097.6

(a) Comprises ANZSIC subdivision 23. (b) Includes working proprietors. (c) Excludes the drawings of working proprietors. (d) Value data are at current prices and, therefore, do not discount the impact of price changes.

Source: ABS catalogue no. 8221.6

Non-metallic mineral products

Goliath Portland Cement Company Ltd

Goliath has been manufacturing cement in Tasmania since 1928. Australian Cement Holdings Pty. Ltd., a joint venture company owned by CSR Ltd and Pioneer International Ltd. acquired Goliath in 1989. Subsidiaries of Goliath are The Cornwall Coal Company N/L and Besser Tasmania Pty. Ltd.

The Railton plant has a cement production capacity of 1,100,000 tonnes per annum. The cement is sold in Tasmania, Victoria, and New South Wales. The 15,000 tonne bulk cement carrier, MV *Goliath*, ships bulk cement from Devonport to Melbourne, Sydney, and Newcastle.

A new limestone quarry is being developed at Railton to replace the existing quarry, which will be worked out in a few years. About \$20 million is being spent developing the new quarry, including the installation of a 1000 tonne per hour limestone crusher and trunk conveying system to the cement plant.

Basic metal products

Comalco Aluminium (Bell Bay) Ltd (George Town)

Australia's first aluminium smelter commenced production in 1955 as a joint venture between the Commonwealth Government and the Tasmanian Government. The smelter was acquired by Comalco in 1960, after which production capacity grew from 12,000 tonnes per annum to more than 140,000 tonnes in 1996.

Comalco's Bell Bay aluminium smelter produces primary aluminium in a range of approximately 50 different alloys, tailored to suit customer requirements. Approximately half of the metal produced at Bell Bay is exported, particularly to markets throughout South East Asia. Of the metal supplied to domestic markets, about 20% has value added before it too is exported.

The plant is the largest industrial user of electricity in Tasmania. It has recently secured a new power agreement with the State Government which makes available 256 megawatts of electricity; about the same amount of electricity required to meet the needs of the entire City of Hobart.

In 1996 the smelter was presented with a number of awards including the Australian Minerals and Energy Environmental Foundation Award for Excellence, in recognition of its wetlands system, designed primarily as a filter system for run-off water from the smelter site before entering the nearby Tamar River environs.

Pasminco Metals-EZ (Risdon)

Established in 1916, the factory at Risdon is the largest producer of zinc in Australia and one of the top 6 electrolytic zinc plants in the world. It exports an extensive range of zinc and zinc alloys to over 30 countries and supplies a large proportion of Australia's total requirements.

In 1996, a total of 207,800 tonnes of zinc and zinc alloys was produced. By-products produced included sulphuric acid, cadmium, and copper sulphate. Zinc concentrate treated during the year totalled 428,400 tonnes, of which 218,000 tonnes were from Tasmanian sources. The permanent workforce was approximately 650 with an additional 120 (employee equivalent) contractors employed.

In 1996, work commenced on the conversion of the plant to paragoethite production which will eliminate the dumping of jarosite waste at sea off the coast of Tasmania. The paragoethite will be

further processed on the mainland. Pasminco is considering an upgrade and expansion of the Risdon smelter, subject to power supply negotiations.

BHP TEMCO

In 1962, BHP transferred its major alloy-making facility from Newcastle to Bell Bay. In 1976, expansion enabled exports and added ferro-silicon and manganese ore sinter to the existing product range of high carbon ferro-manganese and silico-manganese.

Approximately 75% of TEMCO's production is now being exported to steel makers in South East Asia, the Middle East, Japan, the United States of America and New Zealand.

In December 1992, the No. 5 furnace was converted from the production of ferro-silicon to silico-manganese at a cost of \$14 million. The development of a waste water treatment plan in conjunction with George Town Council was completed in 1993.

In 1994 TEMCO opened its \$700,000 Wetlands system, designed to treat stormwater from the plant, the last stage in TEMCO's Environmental Performance Improvement Plan for liquid effluent. A new health, fitness and rehabilitation centre was also made available for all employees and their partners.

In 1997 TEMCO is spending \$10 million to upgrade its No. 3 furnace.

Fabricated metal products

ACL Bearing Company (Launceston)

The factory was established in 1949 to manufacture engine bearings for the Australian spare parts trade. The company has since expanded and its workforce exceeds 500 in 4 factories, on 2 sites.

The range of products has also expanded and now consists of automotive bearings, bushings and thrust washers, powder metal components for the automotive and whitegoods industries, copper and tin metal powders, and bearing metal strip. The products are marketed under the brand names of ACL and Dura Glide 780.

ACL Bearing Company is a major supplier to Australian car manufacturers. All products are sold in export markets, which account for one-third of production, as well as the Australian domestic market. Export markets include the

United States of America, New Zealand, North

East Asia, South East Asia, South Africa, the Middle East, and Europe.

National Castings

National Castings' Launceston foundry is the oldest continuously operating ferrous foundry in Australia.

The foundry was established by John Williams in 1833 as 'The Wellington Street Foundry' to manufacture agricultural implements for the developing colony. Since that time the foundry has undergone many name changes and diversified to become known for its range of Peters and Phoenix wood burning stoves and ovens early this century. It has now developed a reputation for the quality of its steel and iron industrial castings which are used throughout Australia, and parts of South East Asia.

Products range in weight from 1.5 kg up to 3 tonnes, in a wide range of alloy steels, irons, and stainless steels totalling about 2500 tonnes annually. These products are widely used in mining and quarrying, power generation, materials handling, road and rail transport, and general engineering.

The foundry is a division of Australian National Industries (ANI) Corporation Limited, and employs about 100 people at its present site at Hobart Road, Youngtown on the southern outskirts of Launceston.

Transport equipment

Incat Australia Pty Ltd

Incat is a private company that is the culmination of 25 years of activity in the ferry and tour boat industry. The Incat group conducts most of its extensive shipbuilding activity from a modern facility located at Prince of Wales Bay in Hobart, Tasmania.

The 1995-96 turnover of the company was \$120 million. In mid-1997, Incat's workforce stood at 1040 employees and 300 subcontractors.

The company produces 2 types of vessels: the world-record holding Wave Piercing, and the K Class catamarans. Both types of catamarans are tailored to suit customer and route requirements. The company is currently building its 5th generation Wave Piercer and its 2nd generation K Class catamaran. A third type, suitable to carry fast freight, is under development.

Incat has now built around 40% of the high

speed car passenger ferry fleet currently in operation globally. To maintain market leadership, and to capitalise on industry growth, the Hobart shipyard has been expanded to produce 5 ships per year.

Incat recently announced the formation of a joint venture company, registered in Hong Kong. Incat AFAI(HK) Limited has been established to market and contract the successful K50 catamaran which will be built at AFAI's new shipyard in Panyu, China. The first K50 from this shipyard will be delivered in 1998.

Machinery and equipment

ERICO Lightning Technologies Pty Ltd

ERICO Lightning Technologies has developed a number of patented technologies to protect people, buildings, and sensitive electronic equipment from direct lightning strikes and the dangerous transient overvoltages that follow a strike.

ERICO Lightning Technologies' products are targeted at protecting telecommunications equipment in Asia. In China, for example, this market is growing at a massive 160% per year, with the number of cellular subscribers there expected to grow from 175,000 in 1991 to nearly 40 million by the year 2000.

ERICO Lightning Technologies employs 130 personnel in research and development, product design and testing, manufacturing, marketing, and administration at its centralised headquarters located at the Technopark, Dowsings Point in Hobart.

In 1995 the company won the Australian Industry Research Development Award for Technological Innovation for a company in its sales size. In 1996 the company, then called Global Lightning Technologies, won the Premier of Tasmania's Exporter of the Year Award and the Australian National Exports Award for a Small-Medium Manufacturer.

Caterpillar Elphinstone Pty Ltd

Caterpillar Elphinstone Pty Ltd (CEPL) is a leading Tasmanian and Australian manufacturer and worldwide supplier of underground mining equipment. After commencing in 1975, the company experienced continued growth through the establishment of reliable and long-term customer relations.

The company is a joint venture with Caterpillar

MANUFACTURING 1994-95, TASMANIA AND AUSTRALIA

ANZSIC subdivision	Tasmania		Australia	
	Employment at 30 June '000	Wages and salaries \$m	Employment at 30 June '000	Wages and salaries \$m
Food, beverages and tobacco	5.8	163.8	162.5	5 029.7
Textiles, clothing, footwear and leather	1.9	46.4	76.3	1 912.0
Wood and paper products	3.9	139.8	63.0	1 948.1
Printing, publishing and recorded media	1.8	50.4	91.8	3 033.2
Petroleum, coal, chemical and associated products	0.9	32.9	89.9	3 398.3
Non-metallic mineral products	1.0	30.1	38.7	1 336.1
Metal products	3.4	114.6	146.0	5 098.1
Machinery and equipment	2.6	74.8	201.5	6 648.1
Other manufacturing	0.8	14.8	53.9	1 248.1
Total Manufacturing	22.1	667.6	923.6	29 651.7

Source: ABS catalogue nos. 8221.0 and 8221.6

Inc. Elphinstone products are sold and supported through Caterpillar worldwide.

CEPL currently employs about 385 people, making it a major employer on the North West Coast of Tasmania.

Miscellaneous

Vincent Industries

In 1976 the Society of St. Vincent de Paul opened a Sheltered Workshop (Supported Employment Facility) based on the rag trade.

Initially 2 people were employed in a small garage in Wynyard, collecting, sorting, cutting and packaging clean cloth for garages and industry.

From this small beginning has grown a variety of vocational activities employing almost 100 people. The activities include rag sorting and preparation, recycling of metals, plastic bottles and glass, security shredding, and word processing.

In 1988, the change from St Vincent de Paul Society to Vincent Industries highlighted the difference between the activity of the Society and this special work.

Energy

Tasmania's energy needs are provided primarily by the Hydro Electric Corporation (HEC), a government business enterprise (GBE), operating in a commercial energy market.

The HEC provides generation, transmission, distribution, and supply of electricity to all parts of Tasmania. Electricity is generated at 27 hydro-power stations around the State, with an

oil-fired thermal station at Bell Bay providing back-up in times of drought. The HEC also operates 2 diesel stations, one each on Flinders and King islands, and in June 1997 let a tender for the construction of a wind farm on King Island.

In total the HEC has 243,388 customers, and with almost 1700 employees remains Tasmania's largest business. In the 1995-96 financial year, the HEC returned its first ever after-tax profit of almost \$23 million, from a total income of \$517 million. The HEC also reduced its total debt by \$96 million.

Since the era of construction of major power developments came to an end in 1994 with the completion of the Anthony Power Development and the Tribute Power Station, the HEC has been preparing itself to meet the challenges of reform and competition.

The *Competition Policy Reforms Act 1995*, and associated agreements signed in April 1995 by the Commonwealth, State and Territory governments, is encouraging competition across the whole economy, and particularly in the energy sector.

In Tasmania, a comprehensive package of legislation has restructured the State's electricity industry, in line with the agreements on national competition policy. The *Government Business Enterprises Act* became effective on 1 July 1995, and set the framework for the HEC's commercial operations, including the payment of financial returns to the State.

The proclamation of the *Electricity Supply Industry Act* in November 1996 removed the HEC's monopoly and permitted other companies to enter the Tasmanian electricity market. At the same time, the HEC changed

King Island Wind Farm

The Hydro-Electric Corporation is establishing a wind farm on King Island at a total cost of about \$2.5 million, a move which will further enhance Tasmania's image as a clean producer of electricity.

Following investigations over the past decade, there have been significant advances in wind power technology in recent years which have enabled the project to proceed.

A contract for the construction of Tasmania's first major commercial wind power project has been given to a Melbourne company, Sterling Wind Pty Ltd. Sterling Wind will supply and commission 3 Nordex 250 kW turbines on a site at Huxley Hill on King Island. The work is scheduled for completion early in 1998.

The Huxley Hill site is exposed to the prevailing westerly winds of the Roaring Forties. The average wind speed in the area of the wind farm is 26 km/h at 10 metres above ground level, and 33 km/h at 30 metres. By world standards these winds are excellent for wind generation. Wind turbines need a minimum wind speed to operate and must be shut down if the wind speed is too high.

Electricity generated by the wind turbines will be fed into King Island's 11 kV grid via surface transformers and underground cables connected to the existing power station. The wind turbines and the 4 1200 kW diesel generators in the existing power station will be centrally controlled to ensure that the power generated matches the electrical power

demand on the grid.

To date, King Island's power needs have been supplied wholly through diesel generation. The Huxley Hill wind farm should generate up to 20% of the King Island community's power needs, resulting in savings of about \$500,000 in diesel fuel costs as well as reducing CO₂ emissions from the diesel generator by 2000 tonnes per year.

The wind farm has been designed to incorporate an additional 2 turbines as demand on the Island increases. It is being developed in an environmentally-sensitive way, with an extensive buffer zone around the site to minimise the impact of any noise and to protect the wind resource.

The King Island project will provide valuable experience for the HEC in the development of wind farms and integrated wind-diesel power systems.

Supporters believe that wind power has potential as another renewable energy source to supplement Tasmania's 2262 MW hydro-electric system.

With increasing pressure on the rest of Australia to conform to agreed world targets in reducing greenhouse gas emissions, Tasmania is unique with over 99% of its electricity generated using renewable sources. If the Basslink undersea power cable to Victoria is constructed, Tasmania will be well-placed to take advantage of demand for 'green' electricity.

status from Commission to Corporation.

In 1996, the HEC became the first GBE to come under the scrutiny of the Government Prices Oversight Commission (GPOC), an independent body set up by the State Government to conduct public inquiries into the pricing structures of statutory authorities.

The GPOC received almost 100 submissions on the HEC's retail pricing. Its recommendations provided the basis for a new pricing framework approved by the Tasmanian Parliament to

operate for 3 years from January 1997.

In March 1997 the HEC signed a new power deal with Comalco to provide the aluminium producer with 256 megawatts of electricity from the year 2002 until 2014. This is an extra 19 megawatts above the company's existing 237 megawatt contract.

The increase in customer numbers and the signing of new contracts, such as that for Comalco, has highlighted the need for the development of a new power source for

Tasmania as the State approaches the long run capability of its hydro-electricity-based system. While miniature hydro-electricity schemes and the upgrading of older developments are likely for the future, it is generally accepted that major hydro-electric developments are no longer viable for Tasmania, either economically or environmentally.

In April 1997 the Tasmanian Government released its Directions Statement for the State, including its approach to meeting Tasmania's future energy needs. The Government is

pursuing the construction of a cable across Bass Strait, known as Basslink. This decision has been supported by the HEC which sees Basslink as imperative to manage supply and demand issues and to reduce drought risk.

The strategic direction for the HEC in the future is to continue to prepare for the increasing levels of competition in the energy market and to seek opportunities to grow the business.

HEC, TASMANIA, STATISTICAL SUMMARY

	Installed generating capacity MW	Output (a)	
		Units generated GWh	Total consumption million kWh
1988-89	2 315	8 908	8 224.9
1989-90	2 315	9 021	8 303.1
1990-91	2 315	9 026	8 403.7
1991-92	2 460	8 923	8 267.0
1992-93	2 435	8 849	8 183.2
1993-94	2 494	8 865	8 233.5
1994-95	2 502	8 679	8 044.5
1995-96	2 502	9 096	8 453.6

(a) Excludes King and Flinders Islands.

Source: Hydro-Electric Commission Annual Report 1996

FURTHER READING

ABS publications

Manufacturing Industry, Australia (8221.0)

Manufacturing Industry, Tasmania (8221.6)

Other publications

Hydro-Electric Commission, Annual Report 1996.

Acknowledgments

Tasmania—Development and Resources

Hydro-Electric Corporation

CHAPTER 20

Housing and construction

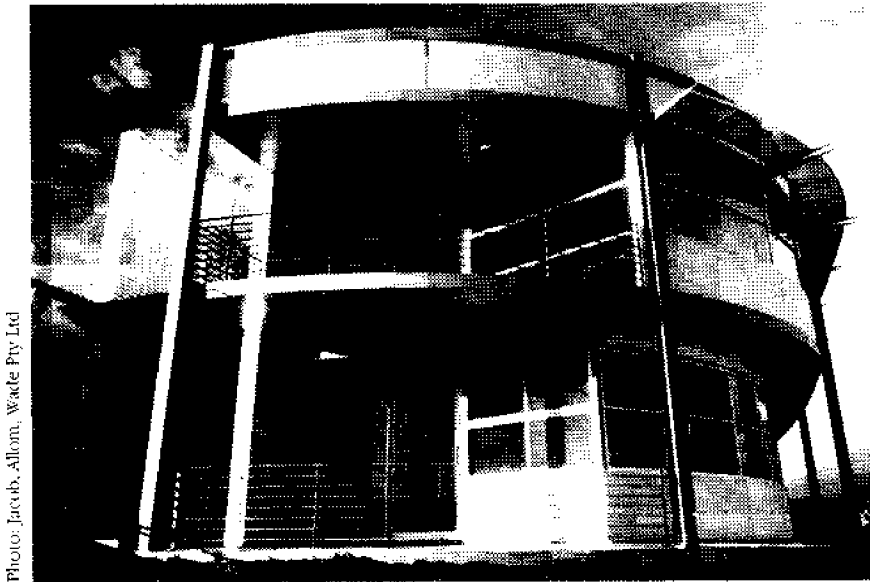


Photo: Jacob, Allom, Wade Pty Ltd

One of the winners of the 1997 Architecture Awards included the College of Aluminium Training, which was designed with College staff and student involvement.

The location and type of accommodation that people choose provide insights into a wide range of social and economic influences on the population. One of the major investment decisions made by people and businesses is the choice of shelter or an appropriate workplace, and this decision is affected by a range of factors. These factors include price, location, access to work, amenities and public infrastructure, planning and government decision making, and personal preference.

The housing and construction industry is usually the first sector to show signs of recovery after an economic downturn. The amount of building activity undertaken is affected by economic circumstances, and the reduction in interest rates on housing and commercial loans appears to increase activity. Building activity is significant to the whole economy.

A resurgence in building activity has further downstream benefits, in that houses are constructed from materials that are produced in the manufacturing sector. The housing and construction industry (including roads, bridges, dams and wharfs) employed approximately 6% of the employed labour force (1996 Census), and contributed approximately 6.8% of the State's gross state product at factor cost during 1994-95, and 6.3% during 1995-96.

Housing

Home ownership has been described as the great Australian dream. The 1996 Census revealed that, at that time, 69% of Tasmanian households had either bought or were in the process of buying their own home.

Some 42.4% of occupied private dwellings in Tasmania were owned by the occupants

HOME OWNERSHIP, TASMANIA

Dwellings	1986		1991		1996	
	Number	%	Number	%	Number	%
Owned	58 157	39.1	67 915	41.8	74 260	42.4
Being purchased	47 588	32.0	44 963	27.7	47 273	27.0
Rented	36 747	24.7	40 931	25.2	46 142	26.3
Other	6 307	4.2	8 512	5.3	7 519	4.3
Total	148 799	100.0	162 321	100.0	175 195	100.0

Source: ABS catalogue nos. 2015.6, 2790.6 and 2467.0

compared to 41.8% at the 1991 Census. The number of occupants renting accommodation also showed a small increase, while the number of occupants purchasing their own home dropped slightly from 27.7% in 1991 to 27.0% in 1996.

Within Tasmania the highest proportions of ownership (owned and being purchased) were recorded in the municipalities of West Tamar with 81%, Kentish with 79% and Kingborough and Sorrell each with 78%. Municipalities with the lowest proportion were Brighton with 53%, Flinders with 55% and Hobart with 59%.

The location of residential building

Over the past 20 years the majority of residential building has occurred in and around the urbanised centres of Hobart, Launceston, Devonport and Burnie. These regions of development have shown periods of high levels of residential building, though few have shown consistent growth.

Levels of house building are affected by the overall economic climate, particularly the levels of home loan interest rates. Siting of public housing development can also have a significant effect on the structure and growth of particular areas.

New housing

Building activity, as measured by the number of new dwellings approved, is often used as one of the main indicators of the economic health of the State. There were 2,539 dwelling units approved in 1995-96. This was a 39% decline since 1993-94. In 1995-96, 43% of new residential building approved was in the Greater Hobart Statistical Division, where 41% of the State's population live (Census, 1996). The Greater Launceston Statistical Subdivision accounted for 17% of approvals, while the Burnie-Devonport Statistical Subdivision recorded 15%. These two areas have 21% and 16% of the State's population respectively (Census, 1996).

In the Greater Hobart-Southern Statistical Division, during 1995-96, the City of Hobart recorded 320 new dwelling unit approvals, the City of Clarence recorded 209, followed by the Municipality of Kingborough with 198, and the City of Glenorchy with 154.

Of the more outlying areas the Municipality of Sorrell recorded 145 new dwelling unit approvals, followed by the Municipality of Brighton with 107 and the Municipality of Huon Valley with 84.

RESIDENTIAL DWELLING APPROVALS, TASMANIA

Region	1994-95	1995-96
Greater Hobart Statistical Division	1 263	1 098
Southern Statistical Division	368	307
Greater Launceston Statistical Subdivision	634	430
Central North Statistical Subdivision	129	91
North-Eastern Statistical Subdivision	116	93
Northern Statistical Division	879	614
Burnie-Devonport Statistical Subdivision	463	381
North-Western Rural Statistical Subdivision	182	132
Lyell Statistical Subdivision	17	7
Mersey-Lyell Statistical Division	662	520
Tasmania	3 172	2 539

Source: ABS catalogue no. 8731.6

BUILDING APPROVED IN LOCAL AREAS, 1995-96

Statistical region sectors and statistical local areas	New houses		Other new residential buildings		Alterations and additions to residential buildings \$'000	Value of non-residential building \$'000	Total building \$'000
	Total no.	Value \$'000	Total no.	Value \$'000			
Brighton	92	7 263	15	600	326	1 019	9 207
Central Highlands	24	1 306	2	28	118	—	1 452
Clarence	156	15 969	53	3 399	4 678	5 816	29 862
Glamorgan/Spring Bay	54	3 649	7	355	498	1 597	6 099
Glenorchy	117	9 742	37	3 447	1 178	14 781	29 148
Hobart	139	14 925	181	23 785	7 523	93 365	139 599
Huon Valley	82	5 335	2	90	985	2 106	8 516
Kingborough	180	17 195	18	1 200	2 505	3 560	24 460
New Norfolk	41	3 096	2	140	615	2 866	6 717
Sorell	113	8 269	32	1 546	873	2 513	13 200
Southern Midlands	36	2 630	—	—	140	680	3 450
Tasman	22	1 124	—	—	76	280	1 480
Greater Hobart-Southern Statistical Division	1 056	90 503	349	34 588	19 516	128 582	273 189
Break O'Day	52	3 274	—	—	434	1 088	4 795
Dorset	35	2 429	—	—	260	1 062	3 751
Flinders	6	458	—	—	192	350	1 000
George Town	21	1 536	1	30	448	3 443	5 456
Launceston — Inner	106	9 545	74	6 291	3 104	38 001	56 941
Meander Valley	96	8 017	27	1 019	989	6 900	16 925
Northern Midlands	44	3 430	10	480	635	1 322	5 867
West Tamar	134	12 267	8	522	1 686	1 008	15 484
Northern Statistical Division	494	40 955	120	8 343	7 747	53 175	110 219
Burnie	68	5 861	20	1 974	1 409	8 983	18 227
Central Coast	72	6 644	27	1 840	1 608	4 180	14 273
Circular Head	30	2 269	10	689	579	5 401	8 938
Devonport	65	5 919	61	3 916	2 363	10 494	22 692
Kentish	29	2 191	4	170	561	1 184	4 105
King Island	4	398	2	80	347	120	945
Latrobe	67	5 588	3	195	922	3 366	10 071
Waratah/Wynyard	46	4 496	5	368	1 455	1 137	7 456
West Coast	7	457	—	—	383	130	970
Mersey-Lyell Statistical Division	388	33 824	132	9 232	9 627	34 995	87 678
Tasmania	1 938	165 282	601	52 163	36 890	216 752	471 086

Source: ABS catalogue no. 8731.6

In the Northern Statistical Division the City of Launceston recorded 180 new dwelling unit approvals followed by the Municipality of West Tamar with 142, the Municipality of Meander Valley with 123, the Municipality of Northern Midlands with 54 and the Municipality of Break O'Day with 52.

The Mersey-Lyell Statistical Division was led by the City of Devonport with 126 new dwelling unit approvals, followed by the Central Coast Municipality with 99, the City of Burnie with 88 and the Municipality of Latrobe with 70.

NUMBER OF DWELLING APPROVALS, TASMANIA

	Private		Public	
	Houses	Other	Houses	Other
1988-89	2 684	864	206	160
1989-90	2 547	764	116	92
1990-91	2 466	827	89	101
1991-92	2 774	965	95	69
1992-93	2 928	1 023	28	115
1993-94	3 065	973	48	61
1994-95	2 570	545	6	51
1995-96	1 917	448	21	153

Source: ABS catalogue no. 8731.6

Architecture: the profession

Norma Calder, Royal Australian Institute of Architects

The Royal Australian Institute of Architects incorporating the Tasmanian Chapter, formed in 1936, was preceded by the Tasmanian Institute of Architects, itself dating from 1903.

The Chapter represents the interests of 119 Corporate Members, 16 Graduate Members and 28 Student Members. The Institute, as instanced by its Code of Professional Conduct, Environmental Manifesto and Manifesto on Barrier Free Design, demonstrates the concern of the architectural profession for the quality of the built environment.

The most public manifestation of The Royal Australian Institute of Architects members' activities is the annual awards program, where awards are given for the most outstanding buildings entered for the year in each of the major categories: Residential, New Buildings and Recycling and Conservation.

In addition, one of these awards is offered each year on a triennial rotation, and is contested by the award recipients in that category for the preceding 3 years. A Student Award is also given. Entry to the Architecture Awards is limited to work carried out in Tasmania by architects registered in Tasmania.

The Chairman of the Awards Jury for 1997, Mr Ken Latona, said: 'Architecture is the proposition about idea and location and is

influenced by time and culture. If the architect can construct the idea or concept with clarity, maintaining originality, continuity and sensibility, keeping intact those first honourable thoughts at the beginning of the design sequence; and create a building that satisfies the client, the builder, the budget and the public then this calls for recognition of such work and for celebration. This is a far brighter, healthier and balanced picture than that driven by the economic rationalists whose only interest is cost, and time'.

The Chapter President, Mr Keith Drew, described this year's awards entries as 'high quality design in times of recession'. He said: 'the architectural profession is resilient. Architects survive because of one major attribute: commitment to good design'. Mr Drew continued: 'In the face of changing economic circumstances, however, architects are being forced to reconsider their traditional business practices. Without a doubt the most dangerous influence on the architect's ability to deliver a quality service is competitive fee bidding. It is self-destructive and ironically counter-productive to the long-term objectives of the client.'

'Fee bidding, where price is the major factor, impairs the architect's ability to offer the very service which is of greatest benefit to the client: adding value to the project at its inception by good design. Fee bidding often leads to the first workable solution being adopted rather than striving for the optimum solution', he said.

The Royal Australian Institute of Architects 1997 Awards

Jury

Ken Latona
Jamieson Allom
James Jones
Andrew Floyd

Residential Category

Award: Robert Gough House
Architect: Craig Rosevear

Award: The Dunne Residence
Architect: Leigh Woolley

Conservation & Recycled

Award: Tasmanian Aboriginal Centre
Architects: Bush Parkes Shugg & Moon

Commendation: Tasmanian Museum & Art
Gallery Stage 1
Architects: Forward Viney Woollan

Commendation: The Old Woolstore
Redevelopment
Architects: Forward Viney Woollan

New & extended buildings

Award: Landsdowne Crescent Primary School
Architects: Crawford Shurman Wegman

Award: College of Aluminium Training
Architects: Jacob Allom Wade Pty Ltd

Commendation: Drysdale Institute of TAFE
Architects: Eastman Heffernan Walch &
Button

Commendation: Elizabeth Street Mall Canopy
Architects: Morris-Nunn & Associates

Commendation: Ansett Reservation Centre
Architects: Glenn Smith Associates

Commendation: Newstead College
Architects: Glenn Smith Associates/Forward
Viney Woollan

Triennial James Blackburn Award for Residential Buildings

Jury

John Howard
Eric Richardson
John Skinner
Charles Voss

Award: Forward Furmage House
Architects: Forward Viney Woollan

SWT Blythe Student Award

Jury

Garry Forward
Mark Drury
Robert Armsby

Award: Building In The Park 'Water Works
Reserve'
Student: Group Project

Commendation: Tasmanian School of
Architecture
Student: Daniel Lane

BHP Colorbond Steel Award

Award: Elizabeth Street Mall Canopy
Architects: Morris-Nunn Associates

AVERAGE COSTS FOR COMPLETED BUILDINGS, TASMANIA

	1992-93 \$/m ²	1993-94 \$/m ²	1994-95 \$/m ²	1995-96 \$/m ²
New houses	456	476	503	521
Other new residential buildings	593	594	636	710
Non-residential building	1 062	838	642	637

Source: ABS unpublished data

Cost of building

The average costs for buildings completed provides a measure of the changing costs of building. The unit cost per square metre has increased steadily for new houses, but other new residential dwellings have not shown the same pattern of increase. This is due partly to the changing mix of high density dwelling types. Unit costs for non-residential buildings are influenced by the type of buildings. Large scale construction such as international hotels and office accommodation has a significant influence on the non-residential building sector in Tasmania.

TOTAL VALUE OF CONSTRUCTION WORK DONE, TASMANIA

	Building \$m	Engineering \$m	Total \$m
1990-91	393.5	289.8	683.3
1991-92	449.0	302.6	751.6
1992-93	431.8	311.1	742.9
1993-94	491.4	243.4	734.8
1994-95	476.0	192.3	668.3
1995-96	460.3	258.3	718.6

Source: ABS catalogue nos. 8752.6 and 8762.0

Construction

Building construction

The value of building work done in 1995-96 was \$460.3 million which was a 3.3% decrease on the \$476.0 million recorded for 1994-95. Work done on new residential building during 1995-96 was valued at \$222.4 million, or 48.3% of the total, and non-residential building work done was \$195.2 million.

The value of work done on non-residential buildings in 1995-96 was \$195.2 million, an increase of 29.0% on the 1994-95 figure of \$151.3 million. The largest percentage increases in the value of work done in the non-residential area were for the Hotels, motels, which rose from \$3.1 million in 1994-95 to \$8.6 million in 1995-96, and the Entertainment and Recreational category, which increased from \$4.7 million in 1994-95 to \$12.0 million in 1995-96.

VALUE OF WORK DONE, TASMANIA

Type of building	1993-94 \$m	1994-95 \$m	1995-96 \$m
New houses	248.0	231.3	185.1
Other new residential buildings	63.3	48.5	37.3
Total new residential buildings	311.3	279.8	222.4
Alterations and additions to residential buildings	40.7	44.9	42.8
Hotels, motels etc.	4.9	3.1	8.6
Shops	11.6	25.4	26.0
Factories	14.8	14.8	20.1
Offices	20.1	21.5	21.5
Other business premises	8.3	17.5	29.6
Educational	26.1	23.9	26.6
Religious	1.0	0.8	1.7
Health	33.8	30.8	35.7
Entertainment and recreational	4.7	4.7	12.0
Miscellaneous	14.1	8.6	13.5
Total non-residential building	139.4	151.3	195.2
Total all building	491.4	476.0	460.3

Source: ABS catalogue no. 8752.6

Hobart Aquatic Centre

Blythe Yeung and Associates

The brief for the design of Tattersall's Hobart Aquatic Centre was to provide an indoor swimming facility to cater for competitive swimming sports and leisure activities. The design needed to comply with standards to allow national and international competitions of major water sports and diving to be held at the centre.

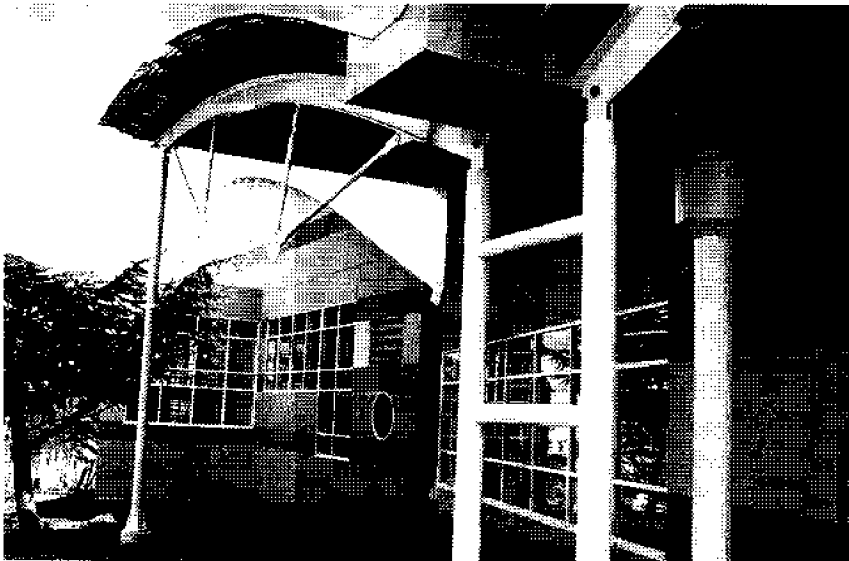
The Centre comprises a 50-metre eight-lane competition pool with floating adjustable boom, a 25-metre-long diving pool with eight diving boards, a 25-metre warm-up and learn-to-swim pool, a leisure pool with assorted water features and a toddlers pool.

Other facilities include water slide, sauna, spa and steam room, kiosk, gymnasium and aerobics areas, offices, occasional care facilities and permanent seating for 1000 spectators.

Features of the Centre include the innovative water and air heating system and the water purification system. Heat reclamation using heat exchangers make use of the nearby wastewater reticulation from the Hobart City Council's treatment plant at Selfs Point. The water purification system is a non-chemical system, which avoids the chlorine smell found in most indoor pools. Both systems provide significant savings in running costs.

Similar aquatic centres provided interstate have cost in the region of \$25 million or more, whereas the final cost of the Hobart Aquatic Centre is likely to be about \$13.5 million.

Architects for the project were Blythe Yeung and Associates and Peter Hunt, architects in association.



ENGINEERING CONSTRUCTION, VALUE OF WORK DONE, TASMANIA

Project	1993-94 \$m	1994-95 \$m	1995-96 \$m
Roads, highways and subdivisions	108.8	95.9	121.9
Bridges	14.8	5.4	2.2
Railways	0.3	—	—
Harbours	9.4	2.1	0.2
Water storage and supply	27.3	5.3	10.8
Sewerage and drainage	12.6	5.9	16.7
Electricity generation, transmission and distribution	20.7	9.8	17.4
Pipelines	—	—	0.7
Recreation	5.5	4.0	8.7
Heavy industry	11.6	9.8	22.4
Telecommunications	31.6	54.1	56.4
Other	0.6	—	1.0
Total	243.4	192.3	258.3

Source: ABS catalogue no. 8762.0

Engineering construction

Engineering construction includes the building of roads, bridges, railways, dams and sewerage systems. The public sector is responsible for most of this activity. In Tasmania the value of work done on engineering construction projects during 1995–96 was \$258.3 million, an increase of 34.3% on the 1994–95 figure of \$192.3 million.

The value of engineering construction commenced during 1995–96 was \$262.6 million, an increase of 38.1% on the 1994–95 figure of \$190.1 million.

The value of work yet to be completed measures the ongoing nature of construction activities. At the end of June 1995 there was \$66.0 million worth of engineering construction to be completed, compared with the June 1996 figure of \$96.7 million still to be completed.

FURTHER READING**ABS publications**

1996 Census: *Local Government Areas, Tasmania* (2015.6)

Building Approvals, Tasmania (8731.6)

Building Activity, Tasmania (8752.6)

Building Activity, Australia (8752.0)

Engineering Construction Survey, Australia (8762.0)

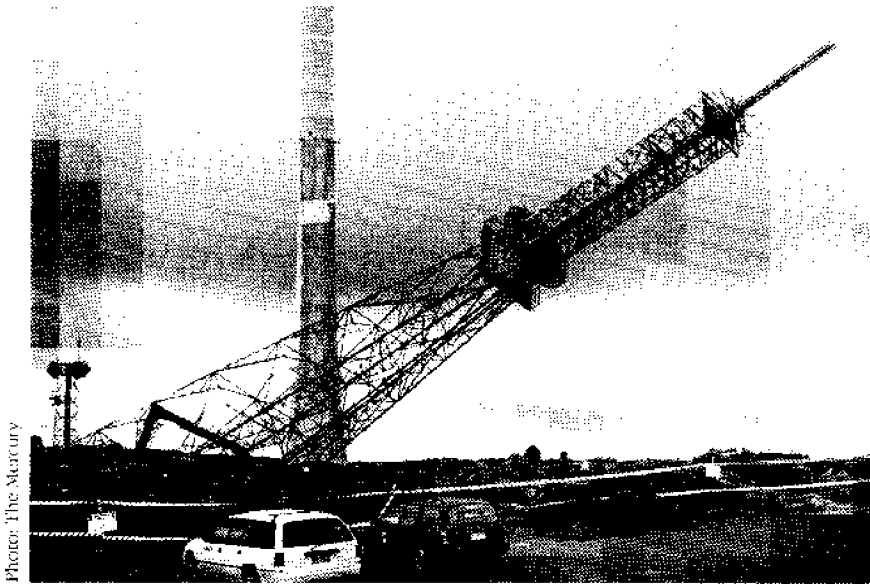
Acknowledgments

Tasmanian Chapter of the Royal Institute of Architects

Stubbs Constructions Pty Ltd

CHAPTER 21

Transport and communications



Demolition of the 104 metre-high steel lattice broadcasting tower on Mt Wellington in 1997. It has been replaced by a new 131 metre-high tower which consists of a 67-metre cast-concrete shaft below a 64-metre steel superstructure.

Transport and Communications are important industry sectors and at May 1997 accounted for 6% of Tasmania's employment. As well, road construction and maintenance and transport vehicle manufacturing, distribution and maintenance contribute further to employment opportunities in Tasmania.

In recent years the Commonwealth departments of Transport and Regional Development, and Communications and the Arts as well as Transport Tasmania have promoted greater competition within the transport industry and in telecommunications carriage, both to provide an incentive for industries to improve efficiency and to provide a framework within which the benefits of improved efficiency can be passed on to users.

Privatisation has been identified as a method of improving efficiency in the transport sector. The Commonwealth is seeking private ownership for

both the Hobart and Launceston airports as well as tenderers for AN Tasrail. The Tasmanian Government is promoting efficiencies in land transport through the establishment of B-double routes on State roads.

The telecommunications sector, which has been characterised by strong growth in demand for telecommunications services, an increasing focus on service quality and rapid technological change, has been an area of particular public interest.

In spite of the apparent competition from the electronic media, the regionally-based print media continues to serve an important complementary function, while the demand for postal communication services appears to have reached a plateau with increasing competition from electronic transmission facilities.

Transport

The major features of the Tasmanian land transport system are:

- approximately 24,000 km of public roadways in May 1995;
- 733 km of public railways carrying freight for key Tasmanian primary and transport industries;
- a 141 km private railway carrying mineral concentrates to the Port of Burnie; and
- a 85 km pipeline carrying iron ore to Port Latta.

The major features of the Tasmanian air and water transport system are:

- a major port system managed by four port authorities and the Federal Airports Commission;
- minor jetties and aerodromes managed by Transport Tasmania and local government; and
- a series of equalisation subsidies on water routes where no land route exists.

Road transport

There are approximately 24,000 km of roads open for general traffic in Tasmania, including 370 km of National Highway and 3,350 km of arterial State roads linking regional Tasmania. Local government authorities maintain a further 14,000 km of roads while 6,600 km of Hydro-Electric Corporation and Forestry Tasmania roads are mainly open to the public. Of 24,069 km of roads open for general traffic at 30 June 1996, 9,971 km had bitumen or concrete surfaces. Forest roads on private land account for approximately 6,000 km more of road.

Road works

Transport Tasmania is responsible for the planning, design and maintenance of State Roads. Roads (3,700 km), bridges and marine facilities managed by Transport Tasmania were valued at \$4,915m at 30 June 1996, with a further \$8.5m in new roadworks in progress at that time. Traffic and other signals were valued at \$16m.

Expenditure on road and bridge construction and maintenance in 1995–96 was \$76m, including \$30m on the National Highway and \$46m on State Roads.

A total of \$33.7m was spent on maintenance and \$42.4m spent on construction. Transport Tasmania awarded contracts worth \$42.9m during the 1995–96 financial year.

Contracts were awarded for works associated with:

- National Highways—road shoulder sealing and bridge maintenance painting;
- Midlands Highway—roundabout construction at Bridgewater;
- Midlands Highway—junctions upgrading between Brighton and Bass Highway;
- Bass Highway—overtaking lanes between Liffey River and Hagley;
- Bass Highway—construction of Penguin bypass between Zig Zag Road and Penguin Saddle;
- Bass Highway—roadworks between Brickport Road and Toorak Court (Coosee);
- Bass Highway—junction improvements at Pine Road and roads west of Midlands Highway junction;
- Tasman Highway—reinstatement and widening of Launceston to Scottsdale section at Targa;
- Tasman Highway—Tasman Bridge maintenance and sealing works east of Holyman Avenue;
- Lyell Highway—reinstatement works between Strickland Road and Bradys Lake;
- Lyell Highway—guard fence replacement on Gormanston Hill section;
- Murchison Highway—Zeehan Highway to Ring River pavement reinstatement and widening; and
- Frankford Main Road—reinstatement between Exeter and Paramatta Creek.

Local government is responsible for the planning, design and maintenance of local government roads and their bridges. In 1995–96, expenditure on the construction of these roads was \$34.0m and expenditure on their maintenance was \$31.9m. The State Grants Commission made road grants totalling \$18.9m to local government for 1995–96.

Motor vehicles

Motor vehicle registrations (excluding motorcycles) grew from 305,267 in 1993 to 312,672 in 1995. At 31 May 1995, Tasmania had a rate of motor vehicle ownership of 676 vehicles per 1,000 population.

MOTOR VEHICLES, TASMANIA (a)

Year	Number of motor vehicles on register '000	Vehicles per 1,000 population no.
1910	0.4	2
1920	4.1	20
1930	19.5	89
1940	26.2	109
1950	43.2	156
1960	93.2	271
1970	154.3	398
1980	229.5	542
1990	294.3	644
1995	312.7	676

(a) Excluding motorcycles.

Source: ABS catalogue no. 9309.0

MOTOR VEHICLES BY STATE, 1995 (a) (b)

	Number of vehicles on register '000	Vehicles per 1,000 population (c) no.
NSW	3 256.7	545
Vic.	2 799.3	637
Qld	1 944.6	614
SA	934.2	653
WA	1 138.2	679
Tas.	312.7	676
Australia	10 650.9	606

(a) Excluding motorcycles. (b) At 31 May. (c) Population based on estimates at 30 June 1995.

Source: ABS catalogue no. 9309.0

Road use

For the 12 months ending September 1995, motor vehicles registered in Tasmania travelled an estimated 4,311 million km, including:

- 3,091 million km travelled by passenger vehicles;
- 1,146 million km by non-passenger carrying vehicles; and
- 44 million km by buses.

Of the 4,311 million kilometres travelled by all motor vehicles:

- 1,416 million km were for business purposes;
- 815 million km were for travelling to and from work; and
- 2,080 million km were for private purposes.

Passengers

An April 1996 survey found that an estimated 193,200 people aged 15 years or more had travelled to work or study. Of these:

- 154,400 drove a motor vehicle;
- 17,500 travelled as passengers in a motor vehicle other than a bus;
- 15,100 travelled as passengers on a bus;
- 20,600 walked; and
- 5,400 travelled on a bicycle or motor bike for at least a part of the journey to work.

The survey also found that of the estimated 178,700 households who undertook major food shopping trips, 162,400 used a motor vehicle for that trip.

The Metropolitan Transport Trust (Metro) provides urban public passenger services in the major Tasmanian metropolitan areas. In 1995-96 the number of passenger trips conducted by Metro was estimated to be 11,558,000, a decrease of 1.8% compared with 1994-95. Full adult patronage and child and school travel declined; however, adult concession travel increased.

Recent Metro service improvements have included a high frequency midi-bus service from Launceston City to Invermay, Mowbray and the university. This is similar to the service between Hobart City, Wrest Point, university and Lower Sandy Bay. As well, the Metrofare ticketing system was fitted to the Starline Coaches servicing Ravenswood.

In addition to the school bus routes serviced by Metro, other school routes are serviced by private bus companies, either as an add-on to their scheduled routes or through contracts with Transport Tasmania to service school routes. Subsidies paid by Transport Tasmania on school routes in 1995-96 were \$23.5m including a payment to Metro of \$5.8m.

Intrastate road passenger services in conjunction with light freight services are provided by Tasmanian Redline Coaches, Tigerline and other smaller bus companies.

An estimated 24 million passengers were carried on buses registered in Tasmania in the 12 months ending September 1995. Of these, 14 million were carried on route services and 9 million were carried on a dedicated school bus service.

MTT SERVICES, TASMANIA (a)

	Unit	1994-95	1995-96
Buses	no.	248	236
Total distance travelled	'000 kms	11 068	10 933
Passengers	'000	11 770	11 558

(a) Total: Hobart, Launceston and Burnie.

Source: Metropolitan Transport Trust

Business travel and freight

In the year ending September 1995, for business purposes, motor vehicles registered in Tasmania travelled 1,416 million km. Of these:

- 682 million km were journeys by passenger vehicles;
- 456 million km were on laden journeys by light commercial vehicles and rigid and articulated trucks;
- 196 million km were on unladen journeys by light commercial vehicles and rigid and articulated trucks; and
- 39 million km were by buses.

It is not known whether a further 36 million km by light commercial vehicles and rigid and articulated trucks were laden or unladen.

An estimated 47 million tonnes of freight was carried by light commercial vehicles and rigid and articulated trucks in the year ending September 1995.

Road traffic accidents

In 1996, 64 people were killed and 1,658 were injured on Tasmanian roads. The number killed on the roads was 8 more than that recorded for the previous year. The number of people injured in road accidents in 1996 was down 8.7% on the number injured in 1995, while the number of accidents involving casualties in 1996 was down 5.7% from the number recorded in 1995.

In 1996, speed was the main cause of 15% of accidents involving fatalities. Alcohol was involved in 24.5% of fatal accidents.

ROAD ACCIDENTS, TASMANIA

	Accidents involving casualties	Number of people	
		Killed	Injured
1989	1 482	80	1 997
1990	1 386	71	1 905
1991	1 291	77	1 788
1992	1 234	74	1 712
1993	1 191	58	1 687
1994	1 234	59	1 756
1995	1 299	56	1 816
1996	1 229	64	1 658

Source: Department of Transport and Regional Development

Water transport

Tasmania's ports give Tasmanian-based businesses and Tasmanian residents access to trading and travel opportunities. These ports also provide visitors with access to Tasmanian tourist facilities. Minor jetties provide travel and trade opportunities for those Tasmanians living on off-shore islands. They also provide access to valuable fishing grounds and recreational opportunities for Tasmanians and visitors.

Ferry services

Passenger ferry services are provided both between Tasmania and the Australian mainland and Tasmania and off-shore islands.

The TT-Line's *Spirit of Tasmania* provides a vehicular and passenger service leaving Devonport for Melbourne on Tuesday, Thursday and Saturday nights and leaving Melbourne on Monday, Wednesday and Friday evenings.

The Bass Strait Passenger Vehicle Equalisation Scheme commenced on 1 September 1996. The scheme introduced a rebate for a driver plus a passenger vehicle crossing Bass Strait.

Transport Tasmania's MV *Mirambeena* provides regular daily services connecting Bruny Island with the Tasmanian mainland across D'Entrecasteaux Channel. The service subsidy in 1995-96 was \$456,000.

A new service in the Furneaux group of islands has been established by Southern Shipping. The Tasmanian-built 35-metre *Matthew Flinders* provides a roll-on roll-off service between Bridport, Flinders Island and Port Welshpool in Victoria. Transport Tasmania spent \$248,000 upgrading the berthing facility on Flinders Island in 1995-96.

During 1997 the 142-year-old Mersey River ferry route was left unserviced when the *Torquay* was withdrawn from service. A Legislative Council enquiry was established to examine the transport needs of the City of Devonport. The ferry service had experienced dwindling patronage since 1991-92.

Freight only services

Major Tasmanian ports are managed by four port authorities centred in Hobart, Launceston, Devonport and Burnie. The Port of Launceston Authority has the greatest tonnage of cargo throughput, including large export tonnages of wood products and refined metals.

BRUNY ISLAND FERRY

	Unit	1993-94	1994-95	1995-96
Voyages	no.	6 552	6 552	6 552
Vehicles	no.	111 300	123 360	118 776
Revenue	\$	672 000	756 000	725 000
Expenditure	\$	928 000	933 000	924 000
Depreciation	\$	256 000	265 000	257 000
Profit/Loss	\$	-512 000	-442 000	-456 000

Source: Department of Transport

BASS STRAIT FERRY

	1993-94 no. (a)	1994-95 no.	1995-96 no.
Voyages	..	313	(b)295
Passengers	229 705	248 303	215 986
Vehicles	63 637	69 433	63 029
Freight TEUs (c)	19 122	24 126	23 199

(a) *Spirit of Tasmania* commenced service on 29 November, 1993. (b) Dry dock in 1996 (c) Twenty foot equivalent units.

Source: TT-Line, Annual Report 1996

FREIGHT MOVEMENTS, MAIN SEAPORTS,
TASMANIA

Seaport	1994-95 t (a)	1995-96 t (a)
Hobart	2 679 613	2 539 221
Launceston	4 309 091	3 589 479
Devonport	1 718 288	1 936 904
Burnie	2 697 470	2 717 973

(a) Mass tonnes including empty containers.

Source: Tasmanian port authorities, annual reports

There were 4,365 claims processed in 1995-96 under the Tasmanian Freight Equalisation Scheme. Of the \$42.7m paid out, \$35.0m was for the northbound component and \$7.7m was for the southbound component of the scheme.

King Island is serviced by the Coastal Express Line's *Searoad Mersey* which provides King Island with a once-a-week service from Devonport and Melbourne. In 1995-96 subsidies under the *Straits Islands Shipping Services Act 1948* for the service totalled \$229 000.

Air Transport

Air transport provides a vital role in the maintenance and development of passenger and air-freight flows between Tasmania and the mainland. This role of air transport is far more important than in other States, where alternative transport modes exist for interstate movement of passengers and freight.

Scheduled passenger services

Interstate air routes involving Tasmanian airports are serviced by both domestic (Ansett and Qantas) and regional airlines (Kendall, Southern and Aus-Air).

PASSENGER MOVEMENTS, MAIN AIRPORTS,
TASMANIA (a)

Airport	1990-91 '000	1994-95 '000	1995-96 '000
Hobart	575	808	843
Launceston	402	554	588
Devonport	164	124	130
Wynyard	76	98	112
Flinders Island	17	19	17
King Island	33	35	35

(a) Scheduled domestic and regional airline services only, including all freight, non-trade items. Charters are not included.

Source: Department of Transport and Regional Development

DOMESTIC FREIGHT MOVEMENTS, MAIN
AIRPORTS, TASMANIA, (a)

Airport	1990-91 t	1994-95 t	1995-96 t
Hobart	3 609	5 531	4 874
Launceston	22 403	2 886	2 990
Devonport	17	34	42
Wynyard	56	53	60
Flinders Island	32	36	47
King Island	926	1 031	991

(a) Scheduled domestic and regional airline services only, including all freight, non-trade items. Charters are not included.

Source: Department of Transport and Regional Development

Ansett provides a jet service between Hobart and Melbourne and Launceston and Melbourne as well as regular direct flights to Sydney. Qantas operates a jet service between Hobart and Melbourne as well as a daily service to Sydney.

Kendall Airlines operates return flights between Wynyard and Melbourne, between Devonport and Melbourne and between King Island and Melbourne. Southern Australian Airlines planes fly between Hobart and Sydney, Launceston and Melbourne and between Devonport and Melbourne and Wynyard and Melbourne. Aus-Air supplies a scheduled small-jet service between Moorabbin and the northern Tasmanian airports (including King and Flinders islands). King Island is also serviced by King Island Airlines and the Geelong Flight Centre.

During 1997, Airlines of Tasmania ceased to trade and their intrastate routes were taken over by other companies.

Passenger movements through mainland Tasmanian ports have increased between 1994-95 and 1995-96.

A direct international service between Christchurch and Hobart is operated by Air New Zealand between October and March.

Freight services

The amount of freight carried through Hobart airport fell from 5,531 tonnes in 1994-95 to 4,874 tonnes in 1995-96.

Rail

A 733-kilometre freight-only rail network services many of Tasmania's principal industries via links with all major ports and cities.

The main goods transported are bulk cement and fertilizer, coal for a number of major Tasmanian industries, sulphuric acid, logs for woodchip export and paper production, liquid clay, and goods by container.

Telecommunications

Telecommunications in the home

Approximately 95% of Tasmanian households have a telephone connection. However, fewer have the technology in the home to access the broad range of services including the Internet and online services such as home banking/shopping and e-mail.

In February 1994, approximately 3% of households had a modem, while 23% of households were frequent users of computers.

Information technology infrastructure development

New outlays detailed in the 1997-98 Commonwealth Budget included expenditure in Tasmania of \$58 million from the Regional Telecommunication Infrastructure Fund over the period 1997-98 to 2000-01. The Fund focuses on providing regional communities with additional opportunities by:

- improving access to telecommunications infrastructure and services;
- increasing the amount and quality of training and educational opportunities; and
- by providing better quality communications and information services for regional businesses, public institutions and residents.

Developments in information technology and advanced telecommunications were recognised in the Tasmanian Premier's 1997 *Directions Statement*. These developments provide opportunities for the State, including new business opportunities, better delivery of Government services and improvements in community life.

The Tasmanian Government also entered into agreements with the University of Tasmania to establish the Tasmanian Electronic Commerce Centre to demonstrate information technology applications to business, and with Nortel to establish a Call Centre of Excellence in Tasmania to provide research and development expertise to aid Call Centre developments.

During 1997 the Commonwealth Government announced the establishment in Launceston of a Call Centre to handle Australia-wide inquiries from clients of the Commonwealth Service Delivery Agency.

The switch over to eight-digit numbers was completed in Tasmania in 1997 with Tasmania now having a two-digit area code, (03), in the South East telephone region.

Mt Wellington tower demolition

The demolition of the obsolete 104-metre steel lattice broadcasting tower on Mt Wellington in 1997 marked the end of the National Transmission Agency's Hobart Tower Project. The tower was demolished by cutting through 2 of the supporting legs and pushing it over with an hydraulic ram. Rehabilitation of the site included removal of steel sections, return of the original soils and the planting of plants native to the summit (including Poa Grass and Helichrysum).

Construction of the old tower commenced in February 1959 on a one-hectare site owned by the Hobart City Council. ABC TV transmissions commenced from the tower in June 1960. Before decommissioning, the tower serviced ABC TV, FM radio, SBS and Southern Cross TV. As well as transmitting broadcast services to Hobart households, the facility transmitted to translators in the west, south and east for retransmission.

The planning to replace the tower began in 1991 after it was recognised that the weather conditions on Mt Wellington and the tower's design would no longer accommodate planned additions to transmission services.

The new tower stands almost 131 metres high. It has 18 rock anchors installed in dolerite bedrock—some 15 metres deep. Above ground there is a 67-metre cast-concrete shaft below a 64-metre steel superstructure, which supports 3 broadcasting antennas and an internal lift. The steel superstructure and broadcasting antennae are covered with a fibreglass radome to shield the antennas from the weather.

The 3 antennas include:

- Band 1 antenna transmitting VHF TV for ABC on Channel 2;
- Band 11/111 antenna transmitting FM radio including SBS, ABC Classic and Triple J. 7HO and TIT; and
- Band 1V/V transmitting UHF TV for SBS and Southern Cross.

A section of the steel superstructure has also been set aside for use in radiocommunications services.

HOUSEHOLDS USING SELECTED INFORMATION TECHNOLOGY EQUIPMENT, FEBRUARY 1994

	Tasmania %	Australia %
Fax machine (a)	3.9	4.4
Dedicated games machine	12.6	17.8
Frequent use of computers	18.8	22.9
Printers	14.2	18.2
Character or image readers or scanners (a)	2.2	1.5
CD ROM (a)	2.8	2.9
Modems (a)	2.9	3.9
Other equipment (b)	4.0	3.4
Total households ('000)	173	6 387

(a) High sample error. (b) Additional keyboards and storage.

Source: ABS catalogue no. 8128.0

Radio and television services

Radio and television broadcasting is the responsibility of the Commonwealth Minister for Communications and the Arts. The Australian broadcasting system consists of free-to-air services, subscription narrowcasting and subscription broadcasting services (television only). A narrowcasting service is one whose reception is limited in some way, for example by being targeted to special interest groups or to cover a special event.

The 4 types of free-to-air service are:

- national radio and television services, provided by the ABC, SBS and Parliamentary broadcasting;
- commercial radio and television services, from licensed commercial companies;
- community radio and television services, provided by non-profit-making organisations under licence; and
- open narrowcasting services, including low-powered local tourist information narrowcasting.

Subscription narrowcasting services may be provided by any operator under the standing authority established by the 'class licence'. Examples of such services include radio and television sports services received in hotels and clubs.

The 3 types of subscription television broadcasting services are:

- satellite delivered;
- microwave; and
- cable.

While no cable service is available in Tasmania, Galaxy Media provides access to 11 channels through its Tasmanian franchisee East Coast Television. This service is transmitted by microwave for subscribers in line of sight to the WIN TV tower on Mt Wellington, while other subscribers take their service from a satellite and are required to purchase a receiving dish and decoder.

Free-to-air services

National broadcasting services

There are 2 public broadcasters transmitting in Tasmania, the Australian Broadcasting

Corporation (ABC) and the Special Broadcasting Service (SBS). Both broadcasters provide Tasmanian radio and television services using the facilities of the National Transmission Agency (NTA).

SBS radio services began in Hobart during 1996 following the completion of the NTA's Hobart Tower Project. SBS TV broadcasts were extended to areas of northern Tasmania (as far west as Wynyard) and the Huon Valley (as far south as Dover), following the installation of new NTA facilities. The completion of new NTA facilities in the far North-East, East Coast and Huon Valley has also extended the ABC's television broadcasting range. As at the 30 June 1996, ABC metropolitan and regional stations covered 100% of the Tasmanian population, while Radio National covered 98%, ABC Classic-FM and Triple-J covered 95%, and NewsRadio covered 43%.

Commercial broadcasting services

A commercial radio or television licensee is required under the *Broadcasting Services Act 1992* to provide a service that, when considered together with other broadcasting services available in the licence area of the licence, contributes to the provision of an adequate and comprehensive range of broadcasting services in that licence area.

In April 1994 the licence areas of TVT (WIN) and TNT (Southern Cross) were aggregated. This meant that 2 commercial TV stations became available throughout most of Tasmania. WIN carries Channel Nine network programs and Southern Cross carries a composite of Channel Seven and Channel Ten programs.

During 1997, Bass Broadcasters combined their AM-band 71A, 7SD, 7BU and 7AD programming, while 7TAB continued to transmit on the AM band in the north and south of Tasmania. 7XS transmits on the AM band in western Tasmania. Commercial FM radio broadcasting services are provided in particular areas of Tasmania by 7XS, 7TTT and 7HO.

Community broadcasting services

In May 1997 there were 7 community radio stations in Tasmania. Apart from 7RPH radio for the print handicapped, these stations transmit in the FM frequency band. Huon FM on 95.3 MHz is a community-radio station covering the Huon Valley and D'Entrecasteaux Channel. In Hobart, 7HFC broadcasts adult contemporary music, while THE FM broadcasts multicultural and

specialist music programs. CITYPARK on 103.7 and 7WAY in Launceston broadcast to local community audiences, as does 7DBS in Wynyard.

Open narrowcasting services

The category of open narrowcasting radio services was established under the *Broadcasting Services Act 1992*. Open narrowcasting services are provided under the open narrowcasting radio 'class licence'. Providers of these services are limited to 10-kilometre transmission-ranges by the signal power of their transmitters. In May 1997, there were 57 licences on issue by Spectrum(SMA) in Tasmania. Of these, 54 were transmitting or could transmit on the 87.6MHz or 88.0MHz frequency while the remainder held older licences to transmit on other frequencies (for example, Launceston 'Tourist Info' on 99.3MHz).

Energy FM on 88.0 MHz made its last transmission from a car outside the Hobart Town Hall in April 1997.

The SMA merged with the Australian Telecommunications Authority (AUSTEL) on 1 July 1997 to create the Australian Communications Authority (ACA). The ACA is responsible for technical regulation, consumer issues and licensing of telecommunications and radiocommunications in Australia.

Newspapers

Newspapers, (with varying forms, regularity and content), are another important medium for daily communication across the State.

The most widely circulated newspaper, the *Community Express*, is published once a week on Wednesdays by Davies Bros in Hobart. An audited average of 70,829 copies circulate in the Greater Hobart area communicating community news and classified advertising. Advocate Publications also circulate community news and classified advertising under their Star banner in the Greater Hobart area. Total circulation of the Star newspapers in Greater Hobart is 69,630.

Community newspapers also carry weekly community news and advertisements to other local communities in Launceston, Devonport, the East Coast, Derwent Valley, Huon Valley, Dorset and Circular Head, with circulations ranging from 19,825 in Launceston to 2,430 in Circular Head.

The largest circulation for a Tasmanian daily is for the Saturday edition of *The Mercury*, with a circulation of 64,067.

TASMANIAN NEWSPAPERS

Name	Frequency	Circulation (a) no.	Location
<i>Community Express</i>	Wednesday	70 829	Hobart
<i>The Mercury (Sat)</i>	Saturday	64 067	Hobart
<i>Sunday Tasmanian</i>	Sunday	54 078	Hobart
<i>The Mercury</i>	Mon-Fri	53 399	Hobart
<i>The Sunday Examiner</i>	Sunday	42 867	Launceston
<i>The Examiner</i>	Mon-Sat	37 800	Launceston
<i>The Advocate</i>	Mon-Sat	26 008	Burnie
<i>Glenorchy Star</i>	Weekly	22 145	Glenorchy
<i>Bay-City Star</i>	Weekly	21 077	Hobart
<i>Launceston Week</i>	Thursday	19 825	Launceston
<i>Eastern Shore Star</i>	Weekly	17 181	Clarence
<i>Kingborough Star</i>	Weekly	9 227	Kingborough
<i>Devonport City News</i>	Wednesday	9 197	Devonport
<i>Suncoast News</i>	Thursday	5 000	East Coast
<i>Derwent Valley Gazette</i>	Wednesday	3 200	Derwent Valley
<i>Huon Valley News</i>	Wednesday	3 060	Huon Valley
<i>North Eastern Advertiser</i>	Thursday	2 820	Dorset
<i>Circular Head Chronicle</i>	Wednesday	2 430	Circular Head

(a) Circulation figures relate to the survey period March 1997 to July 1997.

Source: Margaret Gee's *Australian Media Guide*

Postal services

The Australian Postal Corporation, trading as Australia Post, is a Government Business Enterprise owned by the Commonwealth of Australia. It operates under the *Australian Corporation Act 1989*.

Australia Post is independent of government funding. In financial terms, the Corporation achieves a profit performance equal to the best of private sector enterprises. It pays the full range of government taxes and charges and has apportioned 50% of its after-tax profits as a dividend to the government.

The Corporation offers letter and parcel services

within Australia and internationally. It also provides a range of related services including electronic bulk mail handling; advertising mail; bill payment, money order and banking services; express delivery services; and philatelic products and services.

At 30 June 1997, Australia Post employed 882 staff in Tasmania. There were 34 post offices, and 152 licensees around the State. Mail was distributed to a total of 209,010 delivery points, including 159,047 delivery points at private residences, 30,469 postal premises delivery points to households, and 19,494 delivery points to businesses.

ARTICLES POSTED IN TASMANIA

	1993-94 million	1994-95 million	1995-96 million	1996-97 million
Letters				
Standard letters	55.295	58.892	60.144	58.165
Large letters	6.120	6.380	6.067	6.418
Unaddressed mail	4.224	5.692	5.865	5.340
Parcels				
Parcels up to 500 gms	1.670	1.471	1.130	1.085
Parcels over 500 gms	0.660	0.704	0.752	0.801
Other mail				
Security post	0.035	0.037	0.037	0.009
Other	0.043	0.030	0.012	0.013

Source: Australia Post

FURTHER READING

ABS publications

Environmental Issues: People's Views and Practices, 1996 (4602.0)
Government Finance Statistics, Tasmania, 1995–96 (5501.6)
Household Use of Information Technology, Australia, February 1994 (8128.0)
Motor Vehicle Census, Australia, 31 May 1995 (9309.0)
Survey of Motor Vehicle Use, Australia, 30 September 1995 (9202.0)
Radio and Television Services, Australia, 1993–94 (8680.0)
Tasmanian Statistical Indicators, (1303.6)

Other publications

Australian Broadcasting Corporation, *Annual Report 1995–96*, Sydney
 Australian National Railways Commission, *Annual Report 1996*, Canberra
 Australian Telecommunication Authority, *Annual Report 1995–96*, Canberra
 Burnie Port Authority, *Annual Report 1996*, Burnie
 Department of Communications and the Arts, *Annual Report 1995–96*, Canberra
 Department of Transport, *Annual Report 1995–96*, Hobart
 Department of Transport and Regional Development, *Annual Report 1995–96*, Canberra
 Hon. A. M. Rundle, *Directions Statement*, 10 April 1997, Hobart
 Information Australia, *Margaret Gee's Australian Media Guide 1997*, Melbourne
 Marine Board of Hobart, *Annual Report 1996*, Hobart
 Metropolitan Transport Trust, *Annual Report 1996*, Hobart
 National Transmission Agency, *Tasmanian Broadcasting Development Program*, November 1996, Canberra
 Port of Devonport Authority, *Annual Report 1996*, Devonport
 Port of Launceston Authority, *Annual Report 1996*, Launceston
 State Grants Commission, *Annual Report 1996–97*, Hobart
 Telestra Corporation Ltd, *Annual Report 1996*, ACT
 TT-Line Company Pty Ltd, *Annual Report 1996*, Devonport

Acknowledgments

Australian Broadcasting Authority
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 National Transmission Authority
 Senator Schacht
 Spectrum Management Agency
The Mercury
 Transport Tasmania

CHAPTER 22

Trade

Photo: Peter Jolly



Jerry Holder, a director of the Tasplant Group, shows a Tasmanian native plant to a member of the 'All Japan Treegrowers'. The Tasplant Group aims to identify export opportunities for shrubs, bedding plants, house plants, trees, ornamental flower seedlings and cut flowers.

Tasmania's first recorded trading activity occurred in 1808 when a cargo of sugar arrived at the colony from Bengal. Exports began in 1812 when the *Cyclops* sailed for Sydney with a cargo of locally grown wheat. In June 1813 ports were opened to commerce and trading began in Van Diemen's Land. Twenty thousand bushels of wheat was exported to Sydney in 1817. In 1819 wheat to the value of £4,000 (\$8,000) was exported and in 1820, 43,917 pounds (19,962 kg) of salted meat, which was produced at the settlement of Hobart, was exported to Sydney.

During the 1820s the economy of the colony was becoming diversified even though it still remained very basic. Imports arrived from Britain, India, Mauritius and Batavia while exports were shipped to Britain and Sydney. In 1822 goods exported consisted of wheat, oil, whalefins, seal and kangaroo skins, logs of pine

and beefwood, salt, wool, horses and hides. In 1823 exports consisted of wheat, barley, potatoes, oil, whalebone, seal and kangaroo skins, cedar logs, pine logs, wool and tallow. In the *Statistical Returns of Van Diemen's Land 1835-38*, compiled from official records in the Colonial Secretary's office, it was recorded 'that the imports for the three years have increased 20 per cent, and the very pleasing fact that the exports for the same period have increased at the astonishing rate of 81%, or from £320,679 (\$641,358), in 1835 to £581,475 (\$1,162,950) in 1838.'

The most prominent import into Van Diemen's Land during the early years of settlement was livestock. By 1837, however, two years after the settlement of Port Phillip, livestock had become the major export line and, with wool, it dominated export trade.

During the 1840s exports dropped due to a slump in the price of the colony's staple commodity, wool. There was also a decline in the export of oil and whalebone which were main export commodity items. The largest increase in trade occurred with the British colonies during this period.

In 1842 the value of imports into Van Diemen's Land was a high £21 (\$42) per head compared with only £2 10s (\$5) per head in Britain. The value of exports for the same year was £10 (\$20) per head for Van Diemen's Land compared with only £2 (\$4) per head for Great Britain and Ireland. By the mid-1800s the value of trade, especially exports, had grown dramatically.

As the colony developed and progressed through the late 1800s, the export of locally produced commodities became increasingly important to the economy of the State.

By 1880 the value of exports had exceeded the value of imports. This balance of trade (excess of exports over imports) see-sawed over the following five decades, then stabilised over the period 1937-38 to 1948-49 with exports once again exceeding the value of imports. From 1949-50 to 1954-55 the balance fluctuated once again, but from 1955-56 the value of exports has consistently exceeded the value of imports. As a result of this healthy balance of trade the State plays a vital role as an earner of export income for Australia.

International trade

Tasmania's trade performance

Tasmania's economy is heavily export oriented because of its relatively small domestic market. While this may seem beneficial for the Tasmanian economy, it can also provide great difficulty because of uncertainty and constant change of the world market.

In the 1995-96 financial year the free on board (FOB) value of Tasmania's overseas exports rose by 0.5% to \$1,620m, a record high. However, this rise was below the rise of 2.3% in the previous year and well below the Australian export growth in 1995-96 of 13.3% over the previous year. At the end of the 1995-96 financial year, Tasmania's exports exceeded direct imports by \$1,268m. In the 1995-96 financial year the value of Tasmania's exports was 2.1% of the Australian total.

Since a large proportion of Tasmania's production is export oriented, the Tasmanian economy can be severely affected by movements in world prices. This problem is exaggerated by the small size of Tasmania's economy, which forces it to specialise in a few key industries and so its foreign exports are concentrated in a handful of commodities. The biggest single export contributor in 1995-96 was zinc (17% of the total value of exports) followed by woodchips, aluminium, ores and concentrates, and catamarans. This group of goods together accounted for 53.9% of the total value of Tasmanian exports.

Overseas imports to Tasmania are often forwarded on after being imported to the larger mainland ports and so are not included in the figures reported for imports to Tasmania. Thus imports into Tasmania are under-reported because only direct imports into Tasmania are recorded.

During 1995-96, the value of direct imports to Tasmania increased by 2.8% to \$351.4m, after a significant fall of 23.6% in 1994-95 over the previous year. This was mainly due to a \$13.0m increase in imports of internal combustion piston engines, \$6.3m in crude vegetable materials, \$5.9m in private motor vehicles and \$3.8m in residual petroleum products. These increases were partly offset by a \$7.4m fall in imports of various types of crude minerals, a

TOTAL MERCHANDISE EXPORTS AND IMPORTS

	Exports		Imports		Excess of exports over imports \$m
	Value \$m	Percentage change over previous year %	Value \$m	Percentage change over previous year %	
1990-91	1 341.2	-5.7	298.8	-15.1	1 042.4
1991-92	1 439.2	7.3	286.6	-4.1	1 152.6
1992-93	1 522.2	5.8	334.2	16.6	1 188.0
1993-94	1 574.9	3.5	447.6	33.9	1 127.3
1994-95	1 611.7	2.3	341.8	-23.6	1 269.9
1995-96	1 619.7	0.5	351.4	2.8	1 268.3

Source: *Foreign Trade, Australia: FASTTRACCS Service (5461.0)*

\$6.3m fall in non-ferrous base metal waste and scrap, a \$3.5m fall in aluminium, and a \$3.5m fall in transport vehicles.

Major export markets

In 1957–58 Tasmania's international export trade was dominated by the United Kingdom.

During the late 1960s Japan became Tasmania's major export market when it substantially increased its iron-ore requirements.

In the 12 months to June 1968, Tasmania exported goods worth \$9m to Japan. The following year this had jumped to \$17m, most of which was for iron-ore. In 1995–96 Tasmania's international export trade was dominated by Japan.

Japan

In 1995–96, Japan continued to be Tasmania's largest export market. In fact, it took almost a third (30.5%) of the value of the State's exports. However, exports to Japan decreased 5.8% from \$524.9m in 1994–95 to \$494.3m in 1995–96.

TASMANIA'S MAJOR EXPORT MARKETS

Country or country group	1995–96 \$'000	1995–96 share %	Change from 1994–95 %
Association of South East Asian Nations (ASEAN)			
Brunei	588.3	—	-40.1
Indonesia	93 878.2	5.8	6.6
Malaysia	93 501.1	5.8	34.3
Philippines	16 870.5	1.0	22.7
Singapore	30 589.1	1.9	3.1
Thailand	74 628.3	4.6	54.3
Vietnam	4 964.0	0.3	38.4
ASEAN Total	315 019.5	19.5	24.0
European Economic Community (EEC)			
Austria	10.2	—	-96.4
Belgium-Luxembourg	14 761.6	0.9	39.4
Denmark	134.2	—	-99.6
Finland	3 208.8	0.2	-7.3
France	9 886.7	0.6	-19.0
Germany	25 607.5	1.6	-40.8
Greece	1 190.7	0.1	20.0
Ireland	792.7	—	-9.0
Italy	16 339.7	1.0	-14.0
Netherlands	7 552.1	0.5	-30.2
Portugal	55.1	—	-10.7
Spain	2 541.6	0.2	0.3
Sweden	3 205.1	0.2	8.6
United Kingdom	114 464.0	7.1	50.5
EEC Total	199 749.9	12.3	-9.8
Other major trading partners			
Canada	13 761.8	0.8	1.8
China	13 381.1	0.8	-26.2
Hong Kong	122 353.8	7.6	10.6
India	16 227.2	1.0	61.0
Japan	494 321.6	30.5	-5.8
New Zealand	47 166.4	2.9	-19.6
Republic of Korea	90 546.8	5.6	77.0
Saudi Arabia	14 474.3	0.9	78.2
Taiwan	105 491.2	6.5	-18.7
United Arab Emirates	10 179.3	0.1	303.3
United States of America	115 543.4	7.1	-13.2
Total	1 043 447.0	64.4	-1.6
Other countries, re-imports	61 488.0	3.8	-12.5
Total exports	1 619 704.4	100.0	0.5

Source: Foreign Trade, Australia: FASTTRACCS Service (5461.0).

During 1995-96, woodchips were Tasmania's most valuable single commodity exported to Japan, worth \$224.1m or 45.3% of total exports to Japan. The second most valuable commodity was beef, worth \$42.3m of total exports. Copper ores and concentrates, worth \$33.4m, were the third most valuable commodity exported to Japan.

TASMANIAN EXPORTS TO JAPAN, 1995-96

Commodity (a)	Value \$m
Woodchips	224.1
Beef	42.3
Copper ores and concentrates	33.4
Cheese and curd	26.0
Fish	22.4
Ferro alloys	22.2

(a) The top six export commodities to Japan by value.

Source: Foreign Trade, Australia: FASTTRACCS Service (5461.0).

ASEAN

The Association of South East Asian Nations (ASEAN) countries comprise Brunei, Indonesia, Malaysia, the Philippines, Singapore, Thailand, and Vietnam. In 1995-96 ASEAN countries took 19.5% of the value of Tasmania's exports. Exports increased by 24% from \$254.0m in 1994-95 to \$315.0m in 1995-96.

Exports to ASEAN countries have risen considerably over the past decade, with Indonesia and Malaysia taking a steady stream of Tasmanian exports. In 1995-96 Indonesia was Tasmania's sixth largest export market taking \$93.9m of Tasmania's exports and Malaysia the seventh largest taking \$93.5m. In 1995-96 all ASEAN countries with the exception of Brunei recorded an increase in Tasmania's exports compared with the previous year. Thailand recorded the biggest increase, 54.3%, up from \$48.4m in 1994-95 to \$74.6 in 1995-96.

TASMANIAN EXPORTS TO ASEAN COUNTRIES, 1995-96

Commodity (a)	Value \$m
Zinc	90.2
Aluminium	71.0
Ores and concentrates of base metals (tin, zinc and lead)	58.0
Milk, cream, whey and milk products (excl. butter and cheese)	25.1
Fruits and nuts	14.0
Ferro alloys	8.6

(a) The top six export commodities to ASEAN by value.

Source: Foreign Trade, Australia: FASTTRACCS Service (5461.0).

EEC

The value and importance of exports to the the European Economic Community, (EEC) has fluctuated since the United Kingdom joined the EEC in the 1960s. They decreased by 9.8% from \$221.4m in 1994-95 to \$199.7m in 1995-96. In 1995-96 the EEC was the destination of 12.3% of Tasmania's exports.

The United Kingdom remained the most valuable export market within the EEC, and accounted for 57.3% of exports to the EEC. This represented 7.1% of the total value of Tasmania's exports.

Germany was the second most valuable market within the EEC and took 12.8% of Tasmania's exports to these countries. The most valuable commodity exported to the EEC in 1995-96 was catamarans, followed by ores and concentrates of base metals, and wool.

TASMANIAN EXPORTS TO THE EEC, 1995-96

Commodity (a)	Value \$m
Ships and boats	95.0
Ores and concentrates of base metals (tin, zinc and lead)	34.4
Wool	21.3
Vegetables	16.9
Hides and skins	5.6
Aluminium	2.6

(a) The top six export commodities to the EEC by value.

Source: Foreign Trade, Australia: FASTTRACCS Service (5461.0).

USA

In 1995-96, the United States of America was Tasmania's third largest State export destination, buying 7.1% of the State's exports. However, Tasmania's exports to the USA fell by 13.2% from \$133.1m in 1994-95 to \$115.5m in 1995-96. The main commodity exported to the USA was ferro alloys. This was worth \$49.7m or 43% of Tasmania's exports to the USA.

TASMANIAN EXPORTS TO USA, 1995-96

Commodity (a)	Value \$m
Ferro alloys	49.7
Beef	11.6
Zinc	10.1
Transmission shafts, plain shaft bearings, gearing, speed changers and parts	6.4
Milk, cream and milk products	5.9
Vegetables	4.3

(a) The top six export commodities to the USA by value.

Source: Foreign Trade, Australia: Merchandise Exports, Detailed Commodity Tables (5436.0) on microfiche.

Taiwan

In 1995–96, Taiwan was the fifth largest market for Tasmania's exports, worth 6.5% of total exports. The value of these exports decreased by 18.7% from \$129.7m in 1994–95 to \$105.5m in 1995–96. Zinc was the most valuable commodity exported, worth \$43.8m. The next most valuable commodity was abalone, worth \$22.9m.

TASMANIAN EXPORTS TO TAIWAN, 1995–96

Commodity (a)	Value \$m
Zinc	43.8
Abalone, prepared or preserved	22.9
Aluminium	16.0
Crustaceans, molluscs and aquatic invertebrates	5.9
Beef	2.9
Ferro alloys	2.9

(a) The top six export commodities to Taiwan by value.

Source: Foreign Trade, Australia: FASTTRACCS Service (5461.0).

Hong Kong

Tasmania's exports to Hong Kong continued to increase. In 1995–96, exports to Hong Kong were worth \$122.4m, which was a 10.7% increase over 1994–95, making Hong Kong the second biggest destination for Tasmania's exports. The most valuable commodity was zinc, worth \$80.7m, 66% of total exports to Hong Kong. The second most valuable commodity group was crustaceans, molluscs and aquatic invertebrates, worth \$15.1m.

TASMANIAN EXPORTS TO HONG KONG, 1995–96

Commodity (a)	Value \$m
Zinc	80.7
Crustaceans, molluscs and aquatic invertebrates	15.1
Aluminium	7.9
Abalone, prepared or preserved	3.5
Milk, cream and milk products	2.8
Vegetables	1.9

(a) The top six export commodities to Hong Kong by value.

Source: Foreign Trade, Australia: Merchandise Exports, Detailed Commodity Tables (5436.0) on microfiche.

MAJOR TRADING PARTNERS, 1995–96

Country	Value of goods exported \$m
United Kingdom	18.6
United States of America	4.0
India	3.7
Italy	2.8
France	2.8
Japan	2.8
Federal Republic of Germany	2.4

Source: Foreign Trade, Australia: FASTTRACCS Service (5461.0)

MAJOR TRADING PARTNERS, 1995–96

Country	Value of goods exported \$m
Japan	494.3
Hong Kong	122.4
United States of America	115.5
United Kingdom	114.5
Taiwan	105.5
Indonesia	93.9
Malaysia	93.5
Republic of Korea	90.5
Thailand	74.6
New Zealand	47.2
Singapore	30.6
Germany	25.6
Philippines	16.9
Italy	16.3
India	16.2

Source: Foreign Trade, Australia: FASTTRACCS Service (5461.0)

Commodities exported

For many years, Tasmania's international exports have been composed mainly of raw materials and their products. This pattern continued in 1995-96; the 3 most valuable export commodity groups were non-ferrous metals (25.1%), cork and wood (14.8%), and metalliferous ores and metal scrap (11.7%). These groups accounted for more than half of Tasmania's exports in 1995-96. However, exports of fine foods, and manufactured goods and equipment recently have begun to reduce Tasmania's reliance on exports which have little or no value added.

In 1995-96, Tasmania's top 10 exports formed 72.4% of the total value of exports. With the notable exception of catamarans, all of these top 10 exports were raw materials and food produce.

In 1995-96, zinc was the most valuable commodity exported: 29.2% was sent to Hong Kong, 17.5% to Indonesia, 15.8% to Taiwan, and 7.4% to Malaysia.

Woodchips was Tasmania's second most valuable export, with Japan taking all. The next most valuable commodity was aluminium, of which 25.6% was exported to Thailand, 24.8% to Indonesia, 17.0% to Japan, and 12.7% to Taiwan.

Tasmania's base metals, lead ores and concentrates were the fourth biggest export in 1995-96; Malaysia was the biggest market taking 31.9%, followed by the EEC countries, which took 27.8%.

Tasmania's fifth most valuable export was catamarans. This represented 99.6% of the total exports of ships and boats. Three catamarans were exported, two to the United Kingdom, and one to the Republic of Korea.

Ferro alloys were the sixth most valuable Tasmanian export. The USA was the most valued destination, taking 48.6% of Tasmania's export. Japan, with 21.8%, was the second most valued destination.

Beef was the seventh most valuable Tasmanian export. Most of Tasmania's beef was sent to Japan, which took 69.2%; the USA took 18.9%.

TASMANIAN OVERSEAS EXPORTS, 1995-96

Commodity (a)	Value \$'000	Share of total exports %	Cumulative share of total %
Zinc	276 255.4	17.1	17.1
Woodchips	224 143.4	13.8	30.9
Aluminium	125 759.9	7.8	38.7
Base metal ores and concentrates, n.e.c.	123 651.2	7.6	46.3
Ships and boats	123 060.5	7.6	53.9
Ferro alloys	102 157.6	6.3	60.2
Beef	61 104.7	3.8	64.0
Milk, cream, whey and milk products (excl. butter and cheese)	47 285.7	2.9	66.9
Abalone, prepared or preserved	44 778.0	2.8	69.7
Cheese and curd	44 597.7	2.8	72.4
Cooper ores and concentrates	38 380.4	2.4	74.8
Wool	37 385.1	2.3	77.1
Vegetables	33 338.3	2.1	79.1
Fish	29 186.7	1.8	80.9
Crustaceans, molluscs, aquatic invertebrates	28 988.7	1.8	82.7
Iron ore and concentrates	21 138.0	1.3	84.0
Butter, fats and oils	18 158.9	1.1	85.2
Paper and paperboard	17 840.8	1.1	86.3
Medicinal and pharmaceutical products	17 598.6	1.1	87.3
Fruit and nuts	16 506.0	1.0	88.4
Wood	13 812.7	0.9	89.2
Motor vehicle parts and accessories	12 519.9	0.8	90.0
Other commodities	162 056.3	10.0	100.0
Total	1 619 704.3	100.0	n.a.

(a) The top 25 overseas exports from Tasmania by value.

Source: Foreign Trade, Australia: FASTTRACCS Service (5461.0)

The eighth most valuable export was milk, cream and milk products (excluding cheese and butter). The Philippines took 15.9%, Singapore 14.0%, Japan 13.1%, and the USA 12.5%.

In 1995–96, most of Tasmania's exports of fish went to Japan, which took 76.8%; the USA took 12.8%.

In 1995–96, 58.5% of Tasmania's exports of cheese went to Japan. Indonesia was Tasmania's second biggest customer, buying 12.3%, and the Republic of Korea took 11.0%.

Commodities imported

It is difficult to get accurate figures for Tasmania's overseas imports because only those goods imported directly into the State, and not via a mainland port, are recorded. Items directly imported into Tasmania include capital equipment and machinery, and intermediate goods to be used in further downstream processing.

During 1995–96 Tasmania's chief import, at the broad import commodity group level, was pulp and waste paper. This was worth \$46.6m, 13.3% of the value of imports to the State.

Other significant imports at the broad commodity group level, were internal combustion piston engines and parts, 6.2%; private motor vehicles, 5.3%; cocoa, 4.6%; transport and special purpose motor vehicles, 3.2%; residual petroleum products and related materials, 3.0%; and various crude vegetable materials, 3.0%.

In 1995–96, the most valuable specific commodity was semi bleached or unbleached wood pulp for Tasmania's paper industry, which represented 10.9% of the total value of Tasmania's imports.

The second most valuable commodity imported was passenger motor vehicles, 5.3%. Next came cocoa, 3.6%, compression-ignition internal combustion piston engines for marine propulsion, 3.6%, and petroleum coke, worth 2.8% of total imports.

TASMANIAN OVERSEAS IMPORTS, 1995–96

Commodity (a)	Value \$'000	Share of total imports %	Cumulative share of total %
Pulp and waste paper	46 565	13.3	13.3
Internal combustion piston engines and parts	21 765	6.2	19.4
Private motor vehicles	18 653	5.3	24.8
Cocoa	16 067	4.6	29.3
Transport and special purpose motor vehicles	11 401	3.2	32.6
Miscellaneous residual petroleum products and related materials	10 689	3.0	35.6
Miscellaneous crude vegetable materials	10 475	3.0	38.6
Metallic salts and peroxysalts of inorganic acids	9 303	2.6	41.2
Fertilisers	8 457	2.4	43.6
Civil engineering and contractor's plant and equipment	7 316	2.1	45.7
Rubber tyres, treads, flaps and inner tubes	7 314	2.1	47.8
Printing and bookbinding machinery and parts	6 476	1.8	49.7
Coke and semi-coke of coal, lignite or peat	6 429	1.8	51.5
Transmission shafts, plain shaft bearings, gearing, clutches and other parts	5 978	1.7	53.2
Machinery, equipment and parts for particular industries	5 877	1.7	54.9
Paper and pulp mill machinery	5 761	1.6	56.5
Aluminium	5 629	1.6	58.1
Textile yarn	5 626	1.6	59.7
Measuring, checking, analysing and controlling instruments and apparatus	5 067	1.4	61.1
Miscellaneous electrical machinery and apparatus	4 672	1.3	62.5
Mechanical handling equipment and parts	4 668	1.3	63.8
Fruit and nuts	4 496	1.3	65.1
Fertiliser	4 391	1.2	66.3
Feed for animals	4 370	1.2	67.6
Liquefied propane and butane	4 195	1.2	68.8
Other commodities	109 749	31.2	100.0
Total	351 387	100.0	n.a.

(a) The top 25 direct overseas imports to Tasmania by value.

Source: Foreign Trade, Australia: FASTTRACCS Service (5461.0)

Tasmanian ports

Tasmania has a number of ports that receive overseas vessels. They are situated on the Derwent and Huon rivers in the south (Hobart and Port Huon); in Spring Bay on the East Coast; on the Tamar River in the north (Inspection Head, Long Reach and Bell Bay); on the Mersey River (Devonport), in Ernu Bay (Burnie) and at Port Latta, all in the North-West.

All of these ports provide berths of a depth of 9 metres or greater. Port Latta provides a depth of 16 metres nearly one and a half kilometres off-shore.

There are 4 main port authorities servicing these areas. Interstate and intrastate trade passes through the main ports of Hobart, Launceston, Devonport and Burnie as well as through the smaller ports at Strahan, Stanley, Ulverstone, Currie (on King Island) and Lady Barron (on Flinders Island).

Hobart

The Hobart Marine Board controls about two-thirds of Tasmania's coastline, from Cape Portland on the north coast to Temma Harbour in the west. It is responsible for operations in the major ports of Hobart, Port Huon and Spring Bay (at Triabunna) as well as minor (mainly fishing) ports at Bicheno, Strahan, St Helens, Scamander and Dover, among others.

Hobart provides 3 roll-on/roll-off berths, 5 general cargo berths, 2 berths suitable for container operations or general cargo, a bulk wheat berth and a bulk petroleum berth. In addition there are 2 docks (Constitution and Victoria) for handling fishing vessels and recreational craft, and 3 slips capable of handling vessels of up to 1,200 tonnes. Hobart has expanded its traditional role of maintenance and supply for pelagic fishing and Antarctic supply ships. In January 1996 six specialist vessels engaged in Antarctic expeditions were berthed in the port. The 6 vessels represented the United States, Japan, France, Norway and Australia. The *Aurora Australis*, Australia's Antarctic vessel, is registered here.

In February 1996 a new export service was launched for direct export of onions to Europe. The new cold store and fumigation centre now offers assistance to the aquaculture industry with food processing area, export packaging facilities and a blast-freezing service for the State's salmon and trout products.

The main goods that were shipped through the port in 1996 were pulp and waste paper, metals and ores, petroleum products, chemicals, paper, general cargo, fruit and vegetables, timber products, cereals, beverages and other food stuffs.

During 1995-96 cruise passenger ships also played an important role in the life of the port, with 9 calls by 7 ships carrying a total of more than 5,200 passengers.

In all there were 472 ship visits, a decrease of 48, to the Port of Hobart in 1995-96 involving a total tonnage of 5,175,769 gross registered tonnes. Cargo throughput for 1995-96 was 2,539,221 mass tonnes which was down 5.2% from the previous year.

Port Huon provides 2 general cargo and fruit handling berths, and Triabunna (Spring Bay) has a woodchip handling berth.

In recent years, the trade of boat building has been revived within the Hobart area. Of particular importance is the new generation of wave-piercing catamarans which could radically change ferry services around the world. Other boat builders produce smaller fibreglass catamarans and both modern and traditional sailing craft.

Launceston

The Port of Launceston is situated on the Tamar River. At its mouth, deep water and broad expanses of river provide a valuable natural harbour. In this area, encompassing the anchorages of Bell Bay, Inspection Head and Long Reach, are located the major activities of the port. A tidal range of up to 3.6 metres creates strong tidal currents which, by natural scouring, eliminate the need for any maintenance dredging in the lower reaches of the river.

The Australian Maritime College has facilities at Beauty Point for training crew for fishing vessels, and international and domestic shipping operators. Private firms in the area are engaged in the maintenance and construction of boats for domestic and overseas markets.

The port of Bell Bay is the major industrial port in Tasmania with 8 modern cargo berths. Generally Bell Bay can cater for vessels up to 260 metres long and up to 11.5 metres draft. In 1995 construction on Bell Bay berth no. 5 commenced and was opened in October 1997.

It is 210 metres long with a draft of 12 metres. Designed to act as a multi-purpose facility, it will allow the efficient movement of the projected increase in exports to Japan of medium density fibreboard from the Starwood Australia plant situated nearby.

In 1995–96, Comalco imported 185,000 tonnes of alumina, converting it into 82,000 tonnes of aluminium for export. Comalco cargoes also included imports of liquid pitch, fuel oil, and soda ash, and exports of aluminium powder and alloy wheels. BHP Temco was another important user of the port, importing approximately 387,000 tonnes of manganese ore and significant amounts of coal and coke and exporting 251,000 tonnes of manganese alloys. Woodchips from North Forest Products and Boral Timber Forest Resources were the largest weight of export from the port, totalling 1.7 million tonnes. Other significant goods handled through the port were newsprint, petroleum products, pine logs and other timber, scrap metal, vegetables, wheat and general cargo.

In 1995–96 a total of 3,589,478 mass tonnes of cargo was handled, a 17% decrease over the previous year.

Devonport

The Port of Devonport is situated on the Mersey River within 2 kilometres of the coast. The entrance is sheltered by Mersey Bluff on the west and by a retaining wall extending over half a kilometre northward from the eastern shore of the river. The river was always a natural harbour for small craft, and its development by extensive dredging and engineering works has resulted in a secure harbour for larger ships. Although originally a general port, in recent years there has been a concentration on servicing a few major users, such as the *Spirit of Tasmania*.

The centralisation of Coastal Express Line's northern Tasmanian operations in Devonport has boosted the level of general cargo passing through the port.

The Port of Devonport carries a wide range of cargo due to the wide industry base it serves. The growth in the export of bulk cement by Goliath Portland Cement Company continued in 1995–96 with the total export tonnage increasing by 14% to just over 895,000 tonnes. Export tonnage was also boosted by the reactivation of live sheep exports with a shipment of 40,000 sheep to Jordan. During the year there were 4 ship calls associated with the export of fresh produce including the first ever shipment of onions to Korea by Vecon Pty Ltd. In 1995–96 there was a steady growth in the import of bulk fuels, china clay, and salt.

During 1995–96, 493 ships visited the Port of Devonport compared to 470 in 1994–95. The total mass tonnage of cargo passing through the Port increased by 12.7% from 1,718,288 tonnes in 1994–95 to 1,936,904 tonnes in 1995–96.

Burnie

The Port of Burnie, on Emu Bay, was built out into the open sea in the lee of Blackman Point. This is unlike the ports of Hobart, Launceston and Devonport, which all lie within the shelter of rivers. Protection from the potentially rough waters of Bass Strait is afforded by 2 large breakwaters. Burnie is a deep-water port with no tidal restrictions except occasionally for the larger vessels, and it is virtually fog-free.

With the resumption of production at the Mt Lyell copper mine, it is expected that Copper Mines of Tasmania will be exporting up to 180,000 tonnes of concentrates per annum. The Aberfoyle and Pasminco mines at Hellyer and Rosebery continued to contribute significantly to the port's throughput.

The main goods that were shipped through the port were mineral concentrates and magnetite, fruit and vegetables, paper, woodchips and timber products, petroleum products, motor vehicles and general cargo.

TASMANIAN SEAPORT TRADE, 1993–94

Major port	Inwards revenue tonnes	Outwards revenue tonnes	Total revenue tonnes
Burnie	2 345 285	2 930 685	5 275 970
Launceston	1 737 796	2 974 962	4 712 758
Devonport	1 994 618	2 325 227	4 319 845
Hobart	1 388 942	1 612 712	3 001 654
Total	7 466 641	9 843 586	17 310 227

Source: Annual reports of port authorities.

In 1995–96, 490 ships called at the Burnie port, up 39 from the previous year. Cargo throughput for 1995–96 was 2,717,973 mass tonnes, which was up 0.8% from the previous year.

Interstate trade

Tasmania trades with the other States of Australia by sea or air. Much of Tasmania's high value industries such as pharmaceuticals, salmon, trout, rock lobsters, cheese and other specialist foodstuff is sent by air. With the

increased use of just-in-time stock control, more basic manufactured goods that have a high value for their weight such as textiles, yarns, clothing and footwear are also being sent by air to the mainland.

Unfortunately detailed information on Tasmania's interstate air trade is not available, making it virtually impossible to analyse the State's interstate trade performance. Some data can be obtained from the port authorities of Tasmania, and through the Tasmanian Freight Equalisation Scheme.

FURTHER READING

ABS publications

Australian National Accounts: State Accounts (5220.0)

International Merchandise Trade, Australia (5422.0)

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Robson, Lloyd, *A History of Tasmania*, Oxford University Press, Melbourne, 1983

CHAPTER 23

Commerce



Photo: Purity Supermarkets

Automatic teller machines and electronic banking are increasingly playing a more important role in everyday financial transactions.

Commerce makes an important contribution to the Tasmanian economy. In terms of Gross State Product, the combined value of wholesale trade and retail trade (\$1,327m in 1995–96) was surpassed only by the value of manufacturing (\$1,347m). However, combined employment in the wholesale and retail trades exceeds that of manufacturing.

The term 'commerce' is usually taken to cover wholesale trade, retail trade, and financial services such as banking and insurance.

In terms of the broad divisions in ANZSIC (Australian and New Zealand Standard Industrial Classification) the industries covered by 'commerce' are usually taken to be the divisions: Wholesale trade, Retail trade, Finance and insurance, and Property and business services.

Commerce in the mid-90s

The contribution of commerce to the Tasmanian economy

In 1995–96, commerce contributed 21.4% to Tasmania's Gross State Product at Factor Cost (GSPFC). Wholesale and Retail trade contributed 4.5% and 9.6% respectively, while Finance and insurance, and Property and business services contributed 2.1% and 5.2% respectively.

In terms of contribution to GSPFC, Retail trade was the State's second most important industry. Only Manufacturing with 14.8% of GSPFC was more important. The Finance and insurance industry was at the other end of the scale. In 1995–96, the only industries with a smaller GSPFC contribution were Communication, with 2.0%, and Cultural and recreational services, with 1.3%.

Comparison with Australia

Wholesale and Retail trade play much the same role in the Tasmanian economy as they do in the Australian economy. In 1995–96, Wholesale trade and Retail trade combined contributed 13.8% to Australia's Gross Domestic Product at Factor Cost (GDPFC), compared with 14.1% to Tasmania's GSPFC.

On the other hand, Property and business services played a quite different role. In 1995–96, this industry contributed 9.2% to Australia's GDPFC compared with its contribution of only 5.2% to Tasmania's GSPFC. Property and business services was the second-most important Australian industry; only Manufacturing made a higher nation-wide contribution (14.5%). Thus, Property and business services was about 77% more important to the Australian economy than it was to the Tasmanian economy.

Growth of commerce

The average annual percentage increase in the dollar-value contribution made by Wholesale and Retail trade to constant-price GSPFC, over the period 1984–85 to 1995–96, was 2.1% per annum. The corresponding figure for Finance and insurance, and Property and business services combined was 4.3% per annum. For commerce the figure was 2.8% per annum.

The average annual increase in Tasmania's constant-price GSPFC over the period 1984–85 to 1995–96 was approximately 1.6%. Thus the commerce sector grew 75% more rapidly over the period than the Tasmanian economy.

Productivity in commerce

Comparison between these growth rates and employment growth rates over the same period is of interest. Between May 1985 and May 1996 the annual percentage increase in employment in Wholesale trade and Retail trade combined in Tasmania was 2.2% per annum. The figure for Finance and insurance, and Property and business services combined was 2.5% per annum. The figure for commerce as a whole was 2.3 per annum.

By subtracting each of these employment growth rates from the corresponding constant-price GSPFC growth-rates given in the preceding paragraph we get a good approximation to the relevant labour-productivity growth rates. The conclusion reached in this way is that from

1984–85 to 1995–96 labour productivity in Wholesale and Retail trade combined was almost unchanged. However, in Finance and insurance and Property and business services taken together the figure was 1.8%.

Over the period 1984–85 to 1995–96 employment in Tasmania grew by an average of 1.5% per annum. Subtracting this figure from the 1.6% given earlier for the average annual percentage increase in constant-price GSPFC we get an approximate figure of 0.1 for the average annual percentage increase in Tasmanian labour productivity. This makes it clear that labour productivity (0.5% per annum) grew more rapidly in the commerce sector than in the Tasmanian economy as a whole over the 11 years between 1984–85 and 1995–96.

(Dr Alf Hagger, University of Tasmania's Centre for Regional Economic Analysis.)

Measure of growth

The best measure of growth in Tasmania's commerce sector is the average annual percentage increase in the contribution which the sector makes to the aggregate net value added at factor cost by all Tasmanian industries, in terms of *constant prices*.

This aggregate is known as *constant-price* GSPFC. Unfortunately this measure cannot be calculated exactly because official statistics do not include a break-up of *constant-price* GSPFC by industry. An estimate can be derived, however, in the following way.

The combined share of Wholesale trade and Retail trade in *current-price* GSPFC can be calculated for each of the years 1984–85 through to 1995–96 from official statistics. If this share is applied to the known dollar-value value of *constant-price* GSPFC the dollar-value of the contribution to *constant-price* GSPFC made by Wholesale and Retail trade combined, can be estimated. (This assumes that the combined share of Wholesale and Retail trade in *constant-price* GSPFC is the same as its share in *current-price* GSPFC.)

The combined contribution made by Finance and insurance, and Property and business services can be estimated in the same way. Once these figures are available the required growth-rates can be calculated.

Private finance

Private finance is influenced by a number of aspects in the Australian economy ranging from the availability of the various types of finance to whether it is appropriate to undertake such financing given the present economic environment. Over the past five years there has been a steady increase in private finance.

Interest rates have been stable, and relatively low in the 90s by comparison to the 80s; therefore more people and companies have been inclined to borrow and invest.

Personal finance

Personal finance is predominantly used for the purchase of new and used motor vehicles, boats, residential blocks of land, dwelling alterations and holidays. In 1996, lenders provided \$697.7m in lending commitments in Tasmania, a 9% decrease on the 1995 figure of \$766.8m.

In Tasmania, banks provide the majority of personal finance with \$466.3m in commitments for 1996, representing 67% of the market. This is

a decrease of \$79.5m on the 1995 figure of \$545.8m. The remaining \$231.4m, or 33% market share, consists of commitments from credit co-operatives, finance companies, and other lenders.

Housing finance

Secured new housing finance commitments for owner occupation in Tasmania during 1996 averaged \$64.7m per month, with an average of 954 dwellings financed per month. This is a slight increase on 1995 where the average commitments on housing per month was \$63m, with an average of 941 dwellings financed per month.

The interest rate on housing commitments remained constant at 10.5% for all of 1995 and well into 1996. In June 1996 the interest rate fell to 9.75% and continued to fall, reaching 8.25% in December, the lowest value for the two-year period.

PERSONAL FINANCE, TASMANIA

Month	Type of lender				Total \$m
	Banks \$m	Credit co-operatives \$m	Finance companies \$m	Others \$m	
1995					
January	21.1	4.8	7.1	0.9	33.9
February	27.5	4.9	6.9	0.9	40.2
March	38.9	6.6	7.6	1.1	54.2
April	29.1	9.5	6.1	1.0	45.8
May	47.1	6.3	7.3	1.4	62.2
June	31.0	10.0	9.0	9.0	59.1
July	56.7	8.1	8.0	1.1	73.9
August	54.2	11.4	9.7	1.7	77.1
September	49.7	8.7	7.3	0.9	66.6
October	56.0	10.4	8.5	1.4	76.3
November	92.2	13.0	9.9	1.3	116.3
December	42.3	10.0	7.5	1.5	61.2
1996					
January	42.7	10.6	9.7	0.6	63.6
February	55.8	10.3	8.9	1.2	76.2
March	29.0	10.1	7.4	1.2	47.7
April	38.3	8.6	6.6	3.6	57.1
May	43.5	9.6	7.5	2.6	63.2
June	43.8	8.0	6.7	2.1	60.6
July	45.7	10.3	n.p.	n.p.	65.9
August	34.5	9.2	n.p.	n.p.	53.0
September	33.7	8.9	n.p.	n.p.	52.4
October	38.5	11.5	n.p.	n.p.	58.8
November	29.7	10.7	n.p.	n.p.	48.8
December	31.1	10.4	n.p.	n.p.	50.4

Source: ABS catalogue no. 5642.0

DWELLING UNITS FINANCED, TASMANIA

Month	Dwelling units no.	Value (a) \$m	Current interest rate %
1995			
December	864	59.6	10.50
1996			
January	840	59.1	10.50
February	911	63.3	10.50
March	988	69.4	10.50
April	849	58.9	10.50
May	942	64.7	10.50
June	841	58.3	9.75
July	1 032	66.1	9.75
August	1 163	77.2	9.25
September	1 067	68.8	9.25
October	1 117	75.9	9.25
November	909	60.7	8.75
December	787	54.4	8.25

(a) Includes value of alterations and additions.

Source: ABS catalogue no. 5609.0 and Reserve Bank of Australia Bulletin

COMMERCIAL FINANCE, TASMANIA

Month	Banks \$m	Type of lender	
		Other lenders \$m	Total \$m
1995			
December	94.6	15.2	109.8
1996			
January	65.7	16.6	82.3
February	70.3	11.9	82.2
March	100.7	12.7	113.4
April	64.4	11.8	76.2
May	102.9	13.7	116.6
June	178.8	12.7	191.5
July	95.6	13.2	108.8
August	121.0	13.9	134.9
September	67.8	14.4	82.2
October	54.8	10.4	65.2
November	65.9	14.7	80.6
December	88.8	20.2	109.0

Source: ABS catalogue no. 5643.0

Commercial finance

Commercial finance includes commitments made by significant lenders to government, private and public enterprises, and non-profit organisations, as well as commitments to individuals for investment and business purposes. In 1996, total lending commitments were valued at \$1242.9m, a marginal 2.5% increase from the previous year's total of \$1213.0m.

Over the two-year period, the highest monthly values in commercial finance were June 1996

(\$191.5m), August 1996 (\$134.9m), and November 1995 (\$130.6m).

Lease finance

Lease finance is mainly used for the purchase of motor vehicles. Over the two-year period ending December 1996, total commitments for Tasmania averaged \$3.6m a month with a high of \$7.8m in October 1995, and a low of \$1.9m in January 1995.

LEASE FINANCE, TASMANIA

Month	Banks \$m	Finance companies \$m	General financiers \$m	Total (a) \$m
1995				
December	1.1	2.1	3.9	7.0
1996				
January	1.1	1.0	1.0	3.1
February	1.0	1.5	1.3	3.7
March	0.7	1.6	1.1	3.4
April	0.5	0.9	1.1	2.6
May	0.7	1.3	2.3	4.2
June	0.3	2.2	2.4	4.9
July	1.1	2.5	n.p.	4.9
August	1.5	1.2	n.p.	3.9
September	0.5	1.3	n.p.	3.5
October	0.5	1.7	n.p.	3.2
November	0.4	0.8	n.p.	2.2
December	0.4	1.9	n.p.	4.1

(a) Includes money market corporations and general financiers.

Source: ABS catalogue no. 5644.0

Prices and price indexes

A price index is an effective means of measuring change in the price of goods and services over time for a given locality and group of consumers. Indexes are constructed in a number of steps. First, representative commodities and services are determined. Second, their respective financial importance or weight is determined. Next the prices of these representative goods and services are regularly measured.

Consumer price index

One of the most commonly used indexes is the Consumer Price Index (CPI). The CPI is the householder's guide to price changes that normally affect them. The CPI measures quarterly changes in the price of goods and services that account for a high proportion of expenditure by metropolitan wage and salary households. The CPI is made up of eight main groups: food, clothing, housing, household equipment and operation, transportation, tobacco and alcohol, health and personal care, and recreation and education. In turn, each of these groups is indexed separately and is formed

through the combination of sub-groups (e.g. dairy products). These sub-groups themselves are formed through the combination of expenditure classes (e.g. milk and cream; cheese; and butter).

Pensioners and other social welfare recipients are not included in the CPI population group. As well, the index does not reflect concessional prices paid by these people such as subsidised government dwelling rents, and public transport fares.

Between the 1990–91 and the 1996–97 financial years, change from the previous year in the CPI: All Groups, Hobart, varied between a minimum of 1.3% in 1992–93 to a maximum of 4.9% in 1990–91.

The CPI: All Groups, Hobart index number for the financial year 1996–97 rose by 15.8% over the 1990–91 financial year. The change, over the same period for Groups, varied from 43.9% for the Tobacco and alcohol group, to 0.3% for the Housing group.

**PERCENTAGE CHANGE OF ALL GROUPS,
HOBART, CPI**

Financial year	Change from previous year %
1990–91	4.9
1991–92	2.1
1992–93	1.3
1993–94	2.9
1994–95	3.1
1995–96	3.8
1996–97	1.5

Source: ABS catalogue no. 6401.0

Average retail prices

In Hobart between 1994 and 1996 almost all the food that contributed to the Food group in the CPI increased in price.

Amongst the items in the Food group that increased in price were coffee (23%), self-raising flour (almost 20%), and legs of lamb (slightly more than 15%). The price of corn-based breakfast cereal was almost unchanged. The price of corned silverside dropped by about 9%.

CONSUMER PRICE INDEX, HOBART
(Base of each index: 1989–90=100.0)

Group	1990–91	1996–97	% change
Food	103.3	120.6	16.8
Clothing	104.6	105.6	1.0
Housing	102.8	103.1	0.3
Household equipment and operation	105.9	119.7	13.1
Transportation	105.4	121.5	15.3
Tobacco and alcohol	106.5	153.3	43.9
Health and personal care	111.5	157.7	41.5
Recreation and education	103.6	117.9	13.8
All groups	104.9	121.4	15.8

Source: Unpublished ABS data

AVERAGE RETAIL PRICES OF SELECTED FOOD ITEMS, HOBART

AVERAGE RETAIL PRICES OF SELECTED FOOD ITEMS, 1994-1996				
Item	Unit (a)	Prices (b) (c) (d)		Change %
		1994 cents	1996 cents	
Dairy products				
Milk, fresh, cartons	1 litre	112	120	6.9
Butter	500 g	206	212	3.0
Cereal products				
Bread, ordinary white sliced	680 g	155	160	3.2
Breakfast cereal, corn-based	500 g	357	357	0.0
Flour, self-raising	2 kg	236	282	19.7
Meat				
Beef—rump steak	1 kg	1108	1 121	1.1
Beef—silverside, corned	1 kg	690	629	-8.9
Lamb—leg	1 kg	525	605	15.3
Lamb—loin chops	1 kg	675	757	12.1
Pork—leg	1 kg	668	670	0.2
Bacon, rashers pre-pack	250 g	313	331	5.8
Fresh vegetables				
Potatoes	1 kg	76	83	8.6
Onions	1 kg	112	116	3.8
Other food				
Peaches, canned	825 g	217	218	0.7
Eggs (52g min)	1 doz	258	280	8.5
Sugar	2 kg	236	237	0.6
Tea	250 g	196	210	7.0
Coffee	150 g	512	630	23.0
Margarine, table, polyunsaturated	500 g	157	168	7.3

(a) The table units are not necessarily those for which the original price data were obtained; in such cases, prices have been calculated for the table unit. (b) Prices are the averages of the recorded prices of the four quarters of each calendar year. (c) This is a price list of selected retail goods. The prices in the list are the averages for items of specified grades, qualities and brands charged by a number of selected retailers in a city. They are included in the calculation of the CPI. (d) The list should be regarded as no more than an approximate indicator of price levels and price changes and the average prices for some items may not be comparable from city to city nor from quarter to quarter as the specifications of the products, brands etc. may change.

Source: ABS catalogue no. 6403.0

RETAIL PRICE INDEX NUMBERS, WEIGHTED
AVERAGE OF EIGHT CAPITAL CITIES COMBINED

	Index number
1901(a)	47
1911(a)	53
1921(b)	90
1951(c)	167
1981	926
1991	1 898
1992	1 917
1993	1 952
1994	1 989
1995	2 082
1996	2 141

(a) A Series Index. (b) C Series Index. (c) Weighted average of six capital cities.

Source: Unpublished CPI data

House price indexes

House price index information is derived from the information which is used to compile the Housing group index as a part of the Hobart CPI. Included in the Housing group index are data on the cost of rents, mortgage interest charges,

HOBART HOUSE PRICE INDEXES

	Established house prices		Project home prices	
	Index no.	Annual increase %	Index no.	Annual increase %
1990-91	106.3	..	106.4	..
1991-92	112.0	5.4	110.1	3.5
1992-93	116.6	4.1	114.1	3.6
1993-94	122.5	5.1	117.7	3.2
1994-95	129.0	5.3	121.3	3.1
1995-96	129.8	0.6	123.4	1.7

Source: ABS catalogue no. 6416.0

local government rates and charges, house repairs and maintenance. Separate price indexes are calculated for established houses and for project homes. In the case of the project home price index, a representative sample of project homes models is selected, prices are obtained in each quarter, and the price movements for each model weighted together.

In the case of established homes the raw sales price data is stratified by geographic area and

TURNOVER OF RETAIL ESTABLISHMENTS, TASMANIA

Type of store (a)	1994-95 \$m	1995-96 \$m	Change %
Food retailing	1 154.9	1 251.9	8.4
Clothing and soft goods retailing	184.6	184.3	-0.2
Households goods retailing	280.9	302.7	7.8
Recreational goods retailing	181.9	181.8	-0.1
Hospitality and services	480.9	462.1	3.9
Other retailing (b)	505.5	537.4	6.3
Total	2 788.7	2 920.2	4.7

(a) Excludes motor vehicles and spare parts dealers, service stations etc. (b) Includes department stores.

Source: ABS catalogue no. 8501.0

physical characteristics of the dwelling. The overall movement in the index is calculated by weighing together the price movements in individual strata.

Since 1990-91 the price index of established housing in Hobart increased by more than 4% each year up until 1994-95. Between 1994-95 and 1995-96 the index increased by 0.6%. The price index of project homes since 1990-91 increased by more than 3% each year up until 1994-95. Between 1994-95 and 1995-96 the index increased by 1.7%.

Price indexes of building materials

The Price Index of Building Materials Used in House Building (All Groups, Hobart) grew by 4.0% in 1994-95 and 2.9% in 1995-96. The index fell by 0.4% in 1996-97.

The Price Index of Building Materials Used in Other Than House Building (All Groups, Hobart), an index commonly used for contract adjustment for such non-residential building, rose by 3.7% over the 2 year period 1994-95 to 1996-97. Amongst the price increases were the paint and coatings group (9.1%), structural steel (8.4%), and pre-cast concrete products (8.1%). Amongst the price decreases were structural timber (-11.4%), ready mixed concrete (-1.4%), and sand and aggregate (-0.2%).

Retailing in Tasmania

Employment

Employment in retailing has responded to changes in the economic environment and working conditions. There were 23,178 people employed in retail trade at the Population Census on 30 June 1986, but by the next census on 6 August 1991 this had fallen to 22,824. At the Population Census on 6 August 1996, persons

employed in the retail trade had increased to 24,944.

Turnover

From the 1985-86 Retail Census, total retail turnover was \$1,624m, increasing in the 1991-92 Retail Census to \$2,557m, a 57.4 % increase. Since 1991-92 total turnover in retailing, from the monthly Retail Survey, has been \$2,659m in 1992-93 and \$2,748m in 1993-94, an average each month of \$222m and \$229m respectively. In 1994-95 retail turnover was \$2,789m and subsequently reached \$2,920m in 1995-96 bringing the monthly average to \$232m and \$243m respectively.

Growth in turnover for any industry in the retail sector can be due to increased prices as well as improved sales volumes, and does not necessarily equate to an increase in profitability.

Private new capital expenditure

Capital expenditure estimates indicate the amount of investment in buildings, plant and equipment being made by businesses conducting activities throughout Australia. The estimates are also a key component of the National Account figures.

Private new capital expenditure does not include houses built by speculative builders or money spent on renovations.

During 1989-90, private new capital expenditure in Australia was recorded at \$30,000m. By the end of the 1991-92 financial year it had declined to \$24,000m but made a recovery in the following years, with \$29,000m recorded for 1993-94. In 1994-95 it increased to \$34,000m and subsequently reached almost \$39,000m in

1995-96. In comparison, Tasmania recorded \$575m worth of private new capital expenditure in 1989-90. This increased to \$596m in 1990-91 but declined in the following years to finish

1993-94 with a figure of \$441m or 1.5% of the Australian total. In 1994-95, \$636m was recorded (1.9 % of the Australian total), falling again to \$571m in 1995-96 (1.5%).

PRIVATE NEW CAPITAL EXPENDITURE, TASMANIA AND AUSTRALIA (a)

	New buildings and structures \$m	Equipment, plant and machinery \$m	Total \$m
Tasmania			
1989-90	88	487	575
1990-91	180	416	596
1991-92	79	359	438
1992-93	104	342	446
1993-94	98	343	441
1994-95	133	503	636
1995-96	178	394	571
Australia			
1989-90	11 463	18 613	30 076
1990-91	10 897	17 570	28 467
1991-92	8 076	16 145	24 220
1992-93	7 761	18 086	25 847
1993-94	8 166	20 592	28 758
1994-95	8 630	25 692	34 321
1995-96	11 875	26 727	38 601

(a) Estimates based on a sample survey and therefore subject to sampling variability. Covers selected industries only—mining, manufacturing, finance, property and other selected industries.

Source: ABS catalogue no. 5646.0

FURTHER READING

ABS publications

Australian Housing Survey 1994 (4181.0)

Australian National Accounts, State Accounts (5220.0)

Average Retail Prices of Selected Items, Eight Capital Cities (6403.0)

Consumer Price Index (6401.0)

Household Expenditure Survey 1993-94, Summary of Results (6530.0)

House Price Indexes: Eight Capital Cities (6416.0)

Housing Finance for Owner Occupation, Australia (5609.0)

Price Index of Materials used in Building other than House Building, Eight Capital Cities (6407.0)

Price Index of Materials used in House Building, Six State Capital Cities and Canberra (6408.0)

Retail Trade, Australia (8501.0)

Retailing in Tasmania 1991-92 (8623.6)

Retail Industry: Details of Operations, Tasmania 1985-86 (8622.6)

State Estimates of Private New Capital Expenditure (5646.0)

Other publications

Reserve Bank of Australia Bulletin

Acknowledgment

Centre for Regional Economic Analysis

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